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Taking shape: Implementing citizen-centric local digital government in Western Australia

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TAKING SHAPE: IMPLEMENTING CITIZEN-CENTRIC LOCAL DIGITAL GOVERNMENT IN WESTERN AUSTRALIA

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USE OF THESIS

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ABSTRACT

Digital government, encompassing output-focused e-government (delivering services online) and outcomes-focused e-governance (developing ICT-enabled citizen interaction and participation) has been proposed as the next step in online interaction between government and its citizens. Local government is still coming to grips with providing a mechanism for implementation of both facets of digital government, particularly those of e-governance.

The Local Digital Government Framework (LDGF) was developed in this study to incorporate the citizen-centric focus of e-governance, facilitating the move from the organisational, New Public Management-based focus of e-government. The LDGF extends existing frameworks, providing continuity in the literature. It comprises a new conceptual model of Citizen-Centric Digital Government (CCDG) and a new ICT-enabled management paradigm of Cybercentric Management (CM). Survey, website assessment and interview research strategies developed in this study, based on the LDGF, have validated its use as a benchmarking framework for the level of implementation of local digital government in Western Australia.

This new framework makes a contribution to the literature in the areas of e-government, e-governance and digital government. At a practical level, it will provide clarity of purpose in implementing local digital government, assisting both council peak bodies and individual councils to develop effective and efficient online interaction with their citizens, through provision of choice of channels, maximised return on investment and the citizen-centric participatory focus identified as necessary by government at all levels in Australia.

Both quantitative and qualitative research strategies were employed to investigate attitudes towards and implementation of local digital

government in Western Australian. A survey was used in 2003 and again in 2005 to investigate the attitudes of Western Australian council top management team (TMT) elected and appointed leaders towards the concepts of the LDGF and the provision of an environment conducive to local digital government over time. Mapping of these attitudes on a continuum maps revealed their dynamic nature.

Overall, a management environment conducive to the implementation of local digital government is developing. Using clustering techniques, a clear split between urban and regional/rural councils was identified. Discriminant analysis indicated the significant effect of elected leader attitudes, which were clearly demonstrated to drive cluster formation. The existence of lead and lag councils in the development of local digital government within the context of the CMF was also identified.

A new tool was developed to assess the level of implementation of local digital government over time in Western Australia. It was demonstrated that the development of local digital government spaces (*'e-spaces'*) in Western Australian councils was taking place in a concurrent rather than linear fashion and was both organic and dynamic.

Western Australian councils are progressing in the implementation of the e-government facet of local digital government. However implementation of the e-governance facet is low and is proceeding at a variable rate. A local digital government benchmark for Western Australia was mapped for the first time.

Interviews with a representative group of TMT leaders contextualised the findings of the survey and website assessment research strategies. Financial and human resource limitations were identified as potential limiting factors in progress towards higher levels of e-government and e-governance implementation, possibly related to some extent to a corporate structure incompatible with that required for digital

government. However, development of most levels of local e-governance was observed to differing degrees. Intent to develop the local e-governance e-spaces most relevant to their citizens between 2010 and 2015 was identified.

The findings of this study benchmark for the first time the level of implementation of local digital government in Western Australian councils and TMT leader attitudes towards the concepts and management dimensions necessary for this implementation

The development of a new website assessment tool provides a contribution to the benchmarking literature, extending the results of e-government benchmarking exercises. It will facilitate monitoring of progress in providing local digital government and has a broader application in monitoring the implementation of Australian digital government at state and federal levels identified as government strategy.

DECLARATION

I certify that this thesis does not, to the best of my knowledge and belief:

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1 INTRODUCTION

Australia operates under three tiers of government - federal, state or territory and local. There are six states (Queensland, New South Wales, Victoria, South Australia, Tasmania and Western Australia) and two territories (the Northern Territory and the Australian Capital Territory, the latter housing Australia's capital city, Canberra).

The areas of federal government responsibility in Australia are constitutionally defined and include trade, foreign relations, defence, immigration, taxation and postal services. State and territory governments exist to oversee areas not assigned constitutionally to the Federal Government such as transport, health, police services, utilities education and housing and local government.

Local government is not acknowledged in all state constitutions and exists *ipso facto* through legislation enacted by the relevant state and territory governments. As a result, the role of Australian local government is not properly and consistently defined relative to other levels of government and has changed through time, both across local government as a whole and within individual states.

The National Office of Local Government administers federal relations with local government, including payment of grants to "… foster local government participation in a range of Commonwealth undertakings, including care for children and the aged and services to indigenous peoples" (Swift, 2003).

The responsibilities of Australian local governments are typically narrower than in other countries and vary widely between States. They can include areas such as planning, building, road maintenance and sewers, parks and public facilities.

1.1 Research Aims

Based on an extensive literature review, four research questions guide this study.

RQ1	What is the conceptual framework, in terms of a model and associated management paradigm, to provide clarity and enable implementation of local digital government?
RQ2	What tools and benchmarks can be developed to meaningfully and consistently assess attitudes towards the concepts of local digital government and its implementation exhibited over time on Western Australian council websites?
RQ3	To what degree are Western Australian council leaders prepared for the implementation of local digital government within the context of the RQ1 conceptual framework and is this changing over time?
RQ4	What is the level of digital government implementation on council websites in Western Australia and is this changing over time?

The research outcomes provide the tools and models to test the attitudes and intentions of Western Australian local government elected and appointed leaders towards providing a digital government environment, as well as benchmark the level of digital government visible on council websites.

The role of local government in Australia has expanded in recent years to encompass additional areas such as "... governance, advocacy, services delivery, planning and community development, and regulation. There is no longer a standard definition of 'core' local government services such [sic] 'roads, rates and rubbish'." (Department of Transport and Regional Services (DOTARS), 2005)

The federal government (Department of Transport and Regional Services (DOTARS), 2006) acknowledges that local governments are " … increasingly providing services above and beyond those traditionally

associated with local government". Dollery (2005, p.8) has suggested that " … the nature of local government is shifting from service production and provision to service provision *per se*." Along with this expansion and refocusing of services comes significant financial pressures due to the imbalance between revenue and expenditure, termed the 'structural gap' (Bailey, 1999, cited in Crase & Dollery, 2005, p.2). This structural gap is further complicated by the growth of an 'expectations gap' due to a changing public perspective on the role of local government from one of *'services to property'* to that of *'services to people'* (Dollery, 2005, p.10).

Dollery, Wallis and Allan (2006) suggest that amendment of the legislation governing the existence of local government has enabled councils to pursue a wider range of services, however such a shift has brought with it financial pressures to fund these services and programs and to undertake increasing regulation and monitoring imposed by other tiers of government.

The effect of financial constraints and threatened forced amalgamation on the level of services to people is emphasised by Dollery, Moppett and Crase (2007) in their examination of the Cooperative Local Government Service Company model adopted by the Shire of Gilgandra in New South Wales. The development of e-government, along with the establishment of cooperative and collaborative partnerships are identified as strategies being used by local government in Australia to ameliorate these resource constraints.

National and state investigation of the level of structural and expectation gaps in Australian local government and possible mechanisms to address these gaps, from collaboration and resource sharing to amalgamation, has resulted in the production of a number of reports at both national and state level. These reports are outlined further in Chapter 3.

The existence of these gaps is not unique to Australian local government. In his recent inquiry into local government in the United Kingdom, Sir Michael Lyons (2007) emphasises the local government role in promoting

the well-being of its community and its citizens and the need for the implementation of funding and flexibility improvements to enable this.

Between 1996 and 2006 there have been six inquiries into local government in Western Australia, each urging fewer councils and local government structural reform and including initiatives such as cooperative service provision, resource sharing, joint service delivery enterprises, boundary change and amalgamations. However, Western Australia is the only state in Australia that has not undertaken significant local government structural reform in recent years.

Delivering services online through a virtually-extended enterprise has been suggested as a mechanism to achieve required efficiencies, thereby transforming local government into local e-government (Allan, 2001; Stanton, 2002; Dollery, 2003). However, current organisation-focused government models and management paradigms must be reviewed to incorporate e-governance and a citizen-centric focus if local e-government is to progress to local digital government (Dunleavy & Margetts, 2000).

1.1.1 Local government models in the digital era

The facets of e-government are now widely recognised and investigated, however research into local digital government in Australia is a young field. The term *"digital government"* is used in this study to describe citizen-centric online government. This form of government is proactive, engaging the citizen to ensure effective online service delivery, improved public policy-making and participatory democracy. It therefore includes the complementary facets of e-government and e-governance.

Local digital government requires a move forward from the New Public Management (NPM) paradigm to develop a citizen-centric focus with its attendant features of trust, social and sociotechnical capital. It also requires the development of a conceptual framework to include this new management paradigm.

Using the virtually extended enterprise (VEE) as a mechanism, local government can transform to provide service delivery-related choice for the customer through the maintenance of both a physical and a virtual presence for service delivery.

However, in order to progress from local e-government to local digital government, a framework focused on the citizen is required. Such a model would provide an information and communication technologies (ICT)-enabled citizen-centric focus, whereby the citizen's viewpoint (including provision of channels for interaction and participation in policy and decision-making) is strongly identified. Development and validation of a new framework, encompassing a conceptual model and associated management paradigm. therefore forms part of this study.

1.1.2 Surveying local government leaders' attitudes

Despite a growing imperative from federal and state government to provide online service delivery, very little research into the attitudes of appointed and elected leaders in Australian local government or the management models to facilitate this type of service delivery has been undertaken. None has been identified relating to Western Australian local government.
The published literature concerning local e-government and digital government progress in Australia is sparse. Although helpful in providing a broad overview of aspects of local e-government development and progress in Australia, these studies are limited by small sample size or case study selection (Shackleton, 2002; Shackleton, Fisher, & Dawson, 2004, 2005; 2006) or are designed to provide impetus for future development in the area of e-governance (Chimonyo, O'Loughlin, Chen, & Barlow, 2004). Other studies have a limited focus on managerialism in local government management, once again centred in Victoria (Van Gramberg & Teicher, 2000; Marton, 2003). The main focus has been on local governments in Victoria, where 220 councils were collapsed into 28 in 1994 by the state government. This state has a strong e-government

program (Multimedia Victoria, 2002) focused on building citizen-centric e-government as part of its *Connecting Victoria* policy.

Investigation of the attitudes of both top management team (TMT) elected and appointed leaders towards maximising their e-government management environment for the introduction of digital government and the degree of convergence of these attitudes is lacking. Australian survey results reported by Teicher and Dow (2002) used an instrument based on European and American e-government assessment, applied across all three levels of Australian government. Whilst benchmarking information on e-government implementation and appointed managerial attitudes, no complementary survey of elected leader attitudes was undertaken to assess the degree of convergence. The survey did not investigate e-governance implementation. Similarly, there is no published assessment of elected and appointed leader attitudes towards engaging with citizens and business in an online environment, an important characteristic of digital government.

Development and validation of a new survey instrument based on a new framework, encompassing both e-government and e-governance concepts therefore forms part of this study.

1.1.3 Moving towards local digital government

The need for a new website assessment tool for benchmarking local government progress in implementing both facets of digital goverment was identified through the literature review undertaken for this study. Different website assessment tools have been used to illustrate the level of e-government on local government websites (Dunleavy et al., 2002, cited in McKeown, Teicher & Dow, 2004, p.3). However, characterisation of the manifestation of e-governance and its assessment on government websites (including local government websites) has been fragmented, lacking clarity in the definition of the underlying frameworks and models (Janssen, Rotthier, & Snijkers, 2004; Jansen, 2005).

Similarly, a content analysis of 25% of Victorian local government websites (Shackleton, 2002; Shackleton et al., 2004, 2005) provided a limited e-governance focus with investigation of e-Service, e-Commerce and a combined category of e-Decision Making/e-Democracy developed from Quirk's four-stage descriptive model (Quirk, 2000). Recently, this analysis has been expanded with the addition of the category of e-Management and one case study (Shackleton et al., 2006). These authors concluded that conventional linear e-commerce and e-government maturity models are not applicable in the case of local government as this level of government traditionally focuses more on active community participation and interaction.

A new digital government website assessment tool to facilitate assessment of the levels of both facets of digital government on council websites is therefore required. Development and validation of a local government website assessment tool linked to the Local Digital Government Framework and firmly based in the literature forms part of this study.

1.2 Research Approach

Both quantitative and qualitative research strategies are used in this study to investigate the research questions and provide validation of data through triangulation.

Two quantitative strategies were used:

1. Survey of elected and appointed local government leader attitudes, within the context of the Local Digital Government Framework developed for this study in 2003 and 2005.
2. Assessment of Western Australian council websites for progress in implementation of digital government facets in 2003, 2005 and 2007.

The qualitative strategy of case study interviews was used to reinforce the outcomes of the quantitative strategies.

1.3 Outline of Contents

The research outcomes are presented in the following chapters. Chapter 2 provides a review of the literature relevant to the study in the broad areas of e-government; digital governance and citizen engagement. Chapter 3 then presents an overview of local government in Australia and Western Australia to set the context of the study. The first phase of the research involved the development of a Local Digital Government Framework incorporating a citizen-focused digital government model and associated management paradigm. This framework is described in Chapter 4. Chapter 5 presents the research methodology related to the research questions in the context of the Local Digital Government Framework. Chapters 6 to 9 then present and discuss the results of these research strategies. Chapter 10 summarises the study, providing conclusions, a consideration of research limitations and identification of future research directions.

2 LITERATURE REVIEW

All tiers of government worldwide are grappling with determining the most effective means of interaction with citizens, at both the service delivery and governance levels. The use of information and communication technologies, particularly the internet, to facilitate this interaction has become the subject of much debate, with questions arising of funding and political commitment as well as the potentially socially divisive effects for those without internet access (Jellinek, 2000). The question of the form of government interaction with their e-citizens of the future and how governments can prepare for this is a vital one.

Increasingly, citizens are demanding more accountability and transparency in their dealings with government and seamless interaction between governments at all levels to complete transactions efficiently. Over little more than a decade (Reece, 2006) this has provided a strong and irreversible impetus for the move towards e-government at all levels and it appears that there is agreement between practitioners and academics that this e-services based reform is irreversible (Asgarkhani, 2005).

In the same short period, there has been a considerable change in management models for government. The hierarchical, bureaucratic, ‘command and control’ structure began to give way in the mid to late 1990’s to the incorporation of the business governance-based principles of New Public Management (NPM), a term coined by Osborne and Gaebler (1992). This has been accompanied by increased government rhetoric around the importance of tailored service delivery to the citizen (Abetz, 2005; Australian Government Information Management Office (AGIMO), 2006b) and a focus on ‘digital-era governance’ (Dunleavy & Margetts, 2000; Dunleavy, Margetts, Bastow, & Tinkler, 2006). At the same time, e-government is expected to deliver efficiencies, cost savings and return on investment (National Office of the Information Economy (NOIE), 2002; Auditor General, 2004).

This shift from an organisation-centric focus to the incorporation of a citizen-centric focus enables the extension of the e-government platform to encompass e-governance. It has become apparent that the implementation of e-government, particularly at the local government level, and any subsequent development of e-governance, including e-participation, e-consultation and e-democracy requires a different digital-era framework.

Examination of the e-readiness of national governments worldwide has been undertaken on an annual basis for some time (United Nations, 2004, 2006) and many individual authors and government reports address this issue (Choucri, Maugis, Madnick, & Siegel, 2003; Dutta, Lanvin, & Paua, 2003; UN Department of Economic and Social Affairs, 2003; Economist Intelligence Unit, 2004; UN Department of Economic and Social Affairs, 2004). Although devolution to the local level has been proposed as the most effective way of implementing e-government strategies (Kolsaker, 2005), assessment of readiness at this level and the appropriate frameworks to enable this has been limited. As the level of government closest to the citizen, it can be argued that local e-government has the highest impact in implementing the goals of digital government within the context of public choice.

The model and framework used to underpin local government in the virtual arena is thus of interest. The implementation of local e-government is straightforward, using information and communication technologies to put services online. However, the implementation of local e-governance will be impeded if the model and framework under which the local government operates conflicts with the need to engage citizens in a participatory relationship.

This review explores the issue relevant to e-government and its transformation to digital government at all levels in five sections.

1. Transformative e-Government and e-Governance

This section defines the facets of government in the digital era, termed "digital government" in this study. These facets are e-government with its outputs focus of services online and e-governance with its outcomes focus of e-participation and ultimate aim of e-democracy

2. e-Government Adoption
   This section considers the drivers and barriers to e-government adoption identified in the literature. These include the impact of trust, social and sociotechnical capital.

3. The Progression Towards Digital Government
   This section presents an overview of various government management models. The accelerated change over the last twenty years from bureaucracy to New Public Management and beyond is discussed in terms of the e-government and e-governance facets of digital government.

4. e-Government Benchmarking
   This section discusses the methods of assessment of progress in e-government readiness and implementation and their applicability to the local government sector. The concept of the e-space within the context of local e-government is introduced and defined.

5. Virtual Models
   This section examines the development of virtual council models and the Virtually Extended Enterprise to enable e-government and provide the basis for future development of digital government. It introduces the local government context. As the level of government closest to the citizen, local government has the potential to move away from the 'one size fits all' model imposed on national government departments and provide services and interaction tailored to the requirements of their local community.

2.1 Transformative e-Government and e-Government

Defining the facets of digital government.

e-Government has been defined (Organisation for Economic Co-operation and Development (OECD), 2003a, p.11) as: "... the use of information and communication technologies and particularly the Internet, as a tool to achieve better government".

Warkentin, Gefen, Pavlou and Rose (2002) further broaden this definition to encompass the application of technology to:

> "... provide citizens and organizations with more convenient access to government information and services; and to provide delivery of public services to citizens, business partners and suppliers, and those working in the government sector" (p.157).

Incorporating concepts from political science, organizational theory and organizational structure, it has been suggested (Fountain, 2004) that the terms 'digital government', 'virtual government' and 'e-government' can be used interchangeably. Each of these terms has an online information and service delivery focus, enabled by the use of information and communication technologies (ICTs). However, it can be argued that digital government incorporates the democratic, social and sociotechnical capital aspects of e-governance lacking in the service delivery focus of virtual government and e-government (Bevir, Rhodes, & Weller, 2003; Clift, 2003a; Riley & Riley, 2003; Stanton, 2005). A distinction can therefore be made between digital government (incorporating both e-government and e-governance) and virtual or e-government which can be theorised as extending to their supporting models and frameworks.

In a study of global e-government/e-participation models, Curtin (2006) uses the UN Global E-Readiness definition of e-government to include the dimensions of e-participation and e-inclusion introduced by Hafeez (2005).

Curtin's definition emphasises the importance of information access, making explicit (Curtin, 2006) that:

> "The aim of e-government … is to provide efficient government management of information to the citizen; better service delivery to citizens; and empowerment of the people through access to information and participation in public policy decision-making" (p.10).

Implicit in these definitions is citizen access to information and services online.

2.1.1 The citizen-centric expansion of virtual government

Huang, D'Ambra and Bhalla (2002, p. 577) identified further components of e-government as: "... e-access; e-provision; e-delivery; e-policy; e-community and e-democracy". The shift towards extending e-government to incorporate the citizen at all levels of government is clear (Organisation for Economic Co-operation and Development (OECD), 2001a; Vigoda, 2002; Organisation for Economic Co-operation and Development (OECD), 2003b; Government of Western Australia, 2004; Office of e-Government, 2007). Indeed, it could be argued that the closer the tier of government to the citizen, the more important this context becomes. A report prepared for the Australian Local Government Association (ALGA) makes the clear distinction between a customer focus and a customer-centric focus (TFG International, 2004). The former involves a passive relationship, with the local government retaining control of what is offered, although those offerings may be generated through a focus on customer needs and expectations. The latter, however, involves passing control to the customer who takes up a proactive, participatory role. This participatory democratic role is further strengthened through designation of the partner as a citizen, rather than a customer.

In its 2005 Internet Survey (Dutton, di Gennaro, & Hargrave, 2005), the Oxford Institute found that British citizens use the internet to access e-government services significantly less than other e-services, with only 24% of users saying they had used the internet in this way. However, the report

finds almost double the number of users (45%) accepted the potential of the internet to increase civic participation.

By contrast, 48% of Australian adults accessed government services online in 2006, compared with 39% in 2005, 21% in 2002 and 16% in 2001 (Australian Government Information Management Office (AGIMO), 2006a). This illustrates country-related differences in e-government uptake and therefore provides a caution regarding interpretation and generalisation in the e-government literature across different cultures. However it also shows a growing imperative for governments at all levels to develop online interaction and engagement with citizens to foster participatory democracy, rather than focusing on the provision of government services and processes online as the main goal.

Smith, Kearns and Fine (2005, p.6) define online civic engagement as " … the use of Internet-based and other digital tools, resources and spaces through which people can learn about and practice civic engagement". The Oxford Institute survey results (Dutton et al., 2005) indicate that moving government from the organization-dominated physical mode of operation with little civic engagement towards a network-centric, virtual mode of engagement is seen as an acceptable outcome by citizens using the internet.

Various definitions of e-government focus on the provision of processes and services online making explicit an emphasis on services, not interaction with citizens and customers. In defining e-government as " … a rich mixture of IT capabilities, competencies, and organizational administrative practice spanning both business-to-business and business-to-consumer activities", Deakins and Dillon (2002) reinforce the organisation-centric business view and focus on the citizen as customer inherent in e-government. Wang, Bretschneider and Gant (2005) encapsulate this limited focus by defining web-based e-government services as " … the information and services provided to the public on government Web sites".

Whilst still viewing e-government as "… the IT-led reconfiguration of public sector governance", Paquet (cited in Riley & Riley, 2003, p.37) describes it as a function of decision-making and service delivery capabilities. The separate aspects of e-government and e-governance are characterised, e-governance being associated with " … new processes of coordination made possible or even necessary by the advent of technology – and the spreading of online activities in particular".

2.1.2 The components of digital government clarified: The networks factor

Attempts have been made to clarify the overlap and distinction between e-government and e-governance (Riley, 2003; Riley & Riley, 2003). e-Government is defined in terms of the outputs from electronic administration of programs and services. However, the social context is introduced through the proactive outcome aspect of e-governance in the areas of policy and programs, incorporating collaborative, participatory concepts such as citizen consultation, engagement and networks.

Rhodes (1999) emphasises that networks lie at the heart of e-governance and are expressed through relationships between groups and organisations drawn from public and private sectors. Clift (2003a) conceptualised the ICT-enabled online involvement of citizens in implementing policy and programs as *"public Net-work"*.

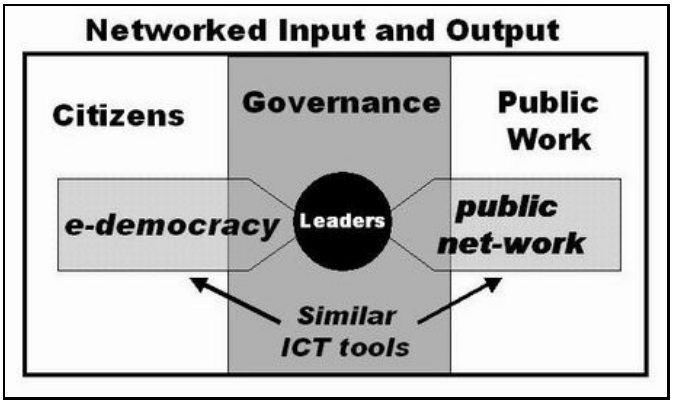


Figure 2-1 ICT enabled public Net-work [*source* Clift, 2003]

Citizens become part of this network-driven interaction when governments begin to focus on participation and collaboration. To enable this, e-governance requires purpose-designed citizen-interaction spaces, supported to different degrees by the e-government process spaces of information, transaction and interaction, depending on the needs of the citizen and the government. Both types of space are essential, but they are not interchangeable, differing both in focus and deliverables.

Marche and McNiven (2003) emphasise that e-government and e-governance are related to different aspects of the relationship between citizens and government.

> " … e-government is the provision of routine government information and transactions using electronic means, most notably those using Internet technologies …e-governance is a technology-mediated relationship between citizens and their governments from the perspective of potential electronic deliberation over civic communication, over policy evolution, and in democratic expressions of citizen will" (p.75).

This notion is reinforced by a definition of e-governance (Baron, Drohomirecka, Ferguson, Grant, & Wolstenholme, 2002, p.8) as the "… linking-up of citizens, stakeholders and elected representatives to participate in the governance of communities by electronic means (including e-democracy)". e-Governance therefore can be viewed as building on the implementation of e-government, with its backroom process focus, adding the dimension of citizen interaction. It is the manifestation of the third thread of e-government reform proposed by La Porte (2005), enabling the public participation necessary to ensure governments are responsive to citizen requirements. Indeed, what is described as *"holistic e-government"* in the National Audit Office's revised e-government model (National Audit Office (NAO), 2002, p.12) is further characterised as *"joined-up e-governance".* Bevir et al. (2003, p.13) see the " … broader notion of governance as the changing boundary between state and civil society". Homburg (2004) further emphasises the reengineering aspect of this reform with the redesign of the interface between government and citizens.

The OECD (2003a) summarises this dichotomy thus:

> "As the impact of e-government becomes more profound, governments will have to strike equilibrium between protecting citizens' rights and better meeting their needs with more efficient, integrated services and policy engagement processes. What starts as a technical exercise aimed at developing more responsive programs and services becomes an exercise in governance" (p.17).

Governments start to provide the e-governance aspect of digital government when they develop online spaces and ICT-based methods for citizen participation and collaboration alongside the provision of online processes, services and information.

Whilst implementation of e-government enables e-governance to a degree, the development of the two facets of digital government should not be seen as sequential. The notion of parallel rather than sequential development is touched on in a revised model of e-government included in the Government on the Web II report (National Audit Office (NAO), 2002), although the report does not tease out the concept of e-governance. Thus, the two facets may converge and diverge at different times in the life cycle of developing citizen interaction, changing shape as required by a citizen-centric focus.

2.2 e-Government adoption

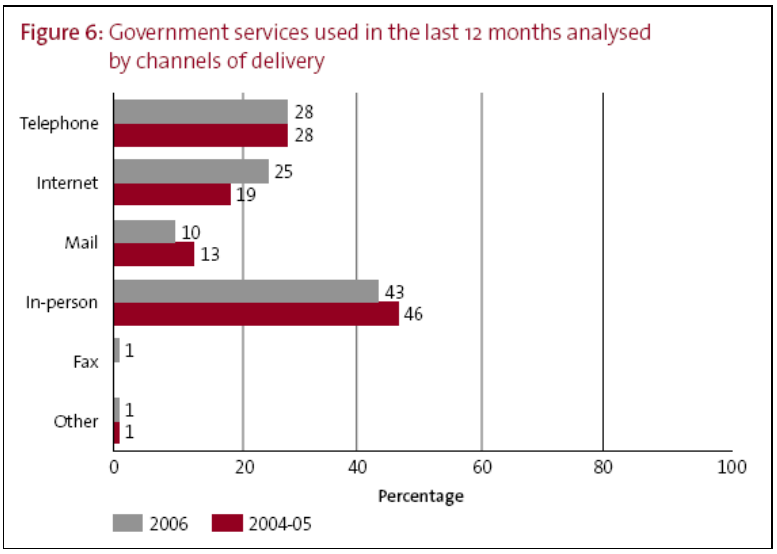
Laying the foundations for digital government. Drivers and barriers to e-government adoption including trust, social and sociotechnical capital.

Various reports by government and business have sought to define the extent of actual and proposed implementation of e-government at a national (Accenture, 2001; West, 2001; UN Division for Public Economics and Public Administration, 2002; Organisation for Economic Co-operation and Development (OECD), 2003a), state and local government level (Department of Transport Local Government and the Regions (DTLR), 2002; Multimedia Victoria, 2002). For local governments – the closest interface between government and citizens – use of the internet is increasingly becoming the medium of interaction, with generations from the

baby boomers onward seeing the Internet as the premier business channel. Indeed, the imperative to interact with citizens in an online environment is illustrated by figures for usage of UK (Dexter & Parr, 2003) and Australian (Australian Government Information Management Office (AGIMO), 2006a) government online services which peak in the 25–34 year age group, remaining strong in the 35–44 years age group and then declining.

Whilst the levels of government with which citizens are interacting remained the same between 2004 and 2006, the channel of delivery changed, with increasing use of the internet, whilst other delivery channels remained virtually unchanged or decreased.

Figure 2-2 Level of government accessed most recently by Australian citizens [*source* AGIMO, 2006a]



The impact of the move over the last decade towards e-government and beyond to e-governance (including e-democracy and e-participation) is that local government is now being required to provide a choice of channels for interaction between itself and the community. The effect of this move towards local e-government in particular is a growing imperative to provide

more customer-centric service focused on access, choice, and engagement for the citizen.

2.2.1 Trust

Clift (2003b) proposes increased citizen satisfaction as a bridge between e-government and the online development of participatory democracy. Trust is also a vital aspect in this process, just as it is a central aspect of our economic and societal interactions (Warkentin et al., 2002) and the basis for transparency and accountability, two much-touted outcomes of e-government. Pavlou (2001) shows that trust is one of the four important variables (which also include perceived risk, perceived usefulness and perceived ease of use) for predicting the intention to use online transactions. Even in a virtual environment, local e-government is the most intimate level of government for our citizens. For this level of e-government to succeed, it must be preceded by an intention to engage and a lack of trust will inhibit the development of this intention.

A survey conducted by the Western Australian Local Government Association (WALGA) identified trust as overwhelmingly the most important contributor to community satisfaction with local councils (Western Australian Local Government Association (WALGA), 2006). Local government was the most trusted level of government for 53% of respondents however, in the trust-related attributes of self-interest, trustworthiness and communications councils were most misaligned with community perception. Trust was perceived as more important than the quality of customer service, level of consultation or improvements to quality of life in the area.

Marshall, McKay and Burn (2001) point out that a trusting relationship is a fundamental critical success factor in the virtual organisational environment. Public sector management styles that emphasise flattened hierarchies, flexibility and communication flows may be most effective in providing the environment for development of trust. It is evident that

development of trust between both internal collaborative and external participative e-government stakeholders must be a condition for effective interaction in a virtual environment.

Warkentin et al. (2002) proposed citizen trust as an important catalyst for e-government adoption, the development of which must be approached differently in different cultural and social contexts. In their consideration of antecedents and downstream effects of trust in virtual communities, Ridings, Gefen and Arinze (2002) confirmed earlier findings (Jarvenpaa et al., 1998, cited in Ridings et al., 2002, p.287) that trust is a significant predictor of activity in virtual communities, a central aspect in these communities and therefore essential for their successful functioning. They also found that information is the basis of these communities, which exist to share this information. Just as a lack of trust is one of the main constraints on e-commerce, so it will constrain building participatory e-democracy via digital government.

2.2.2 Efficiency, customer and citizen relationship management

From the perspective of e-government efficiency, it has also been identified (Dyer, 2000, cited in Eggers & Goldsmith, 2004, p.18) that transaction costs are reduced in networked settings incorporating trust, due to open information exchanges and relationship development. The public net-work concept (Clift, 2003a) enables this type of outcome.

Digital government is also concerned with establishing relationships and opening communication channels with both customers (i.e. citizens) and suppliers (Hazell & Doig, 2001). According to Schedler and Scharf (2001, p.776), e-Government: " … integrates the interactions and the interrelations between government and citizens, companies, customers, and public institutions through the application of modern information and communication technologies" (p.776).

Vigoda and Yuval (2003) concluded that administrative performance was the precursor to development of citizen trust in governance. They also

concluded that this is linked with the view of citizens as customers and the corresponding recasting of the business strategy of Customer Relationship Management (CRM) into that of Citizen Relationship Management (CzRM). This concept is core to the citizen-centric focus of digital government.

Larsen and Milakovich (2005) caution that the challenge for the public sector is that those they deal with are citizens not customers and that improved service quality cannot be at the expense of public sector values.

2.2.3 Social capital, civic activity and networks

The term social capital first coined by Bourdieu (1986) has been extended to the e-government context and defined (Organisation for Economic Co-operation and Development (OECD), 2001b, p.41) as: " … networks together with shared norms, values and understandings that facilitate cooperation within and among groups".

Among the elements of social capital, trust is also nominated as a shared value and norm, along with the idea of reciprocity. It has been suggested that ICT plays a role in building social capital, enabling physical communities to expand and transform to virtual communities and that this role varies according to community type (Department for Communications Information Technology and the Arts (DCITA), 2005).

Building on the notion of social capital and incorporating the use of ICTs, Resnick (2002) proposed the concept of *'sociotechnical capital'*. This concept forms the basis of a framework for supporting civic activity and regenerating social capital in this area, including the generation of trust, shared knowledge and values. Resnick (2002) suggests ICTs enable the development of interaction, a necessary condition for building social capital and expanding the social network. With the incorporation of feedback mechanisms to generate trust, sociotechnical capital development may be an enabler of productive participatory democracy.

2.2.4 Online public engagement and participatory democracy

Coleman and Gotze (2001) examine mechanisms for generating online public engagement in policy deliberation to provide the information-based deliberative element of democracy. Noting the expressed desire of internet citizens to be involved in policy deliberation, they suggest an effective use of online engagement lies in opening channels to connect elected representatives to those often disenfranchised in policy debate.

To facilitate participatory democracy in a virtual environment, the development of trust between levels of government offering online services as well as between the government and the citizen in providing that service is critical. The quality of initial local e-government interactions will influence uptake of online services and ultimately the e-participation of the citizen. If trust can be built between the council and the citizen, increasing participation in local e-democracy and e-participation initiatives will result in improved policy-making and increased citizen satisfaction.

2.3 The Progression to Digital Government

From bureaucracy to New Public Management and towards digital government in less than twenty years

In considering the operation of local government in the digital era, it is helpful to examine the various models of government management. In the Australian context, Dollery and Johnson (2005) suggest that the most useful approach for classifying alternative models for local government is:

> " … founded on the presumption that existing and potential models suitable for Australian local government can be located along a bipolar continuum given by the degrees to which political and operational control can be centralized or decentralized between local councils and the new organizational entity they join" (p.5).

Using this approach, all existing and potential models of governance can be described along a continuum, from those with fully decentralized operational and political control to digital government with full political

control, but where it is necessary to devolve service delivery functions to physical organisations.

2.3.1 From Bureaucracy to New Public Management

Councils are commonly perceived as operating under hierarchical, bureaucratic management models, a 'command and control' type of structure applicable to varying degrees in the physical environment. In transforming to local e-government, councils must operate more in a virtual environment, reliant to a far greater extent on information and communications technologies to produce this transformation.

It has been argued (Ho, 2002; Stanton, 2002, 2004; Dollery & Johnson, 2005) that different management models are needed to achieve customer-focused outcomes in an environment moving towards a *'services to people'* focus and an ICT-enabled e-government delivery mechanism. Ho (2002) concludes there is a need to transform from the traditional bureaucratic paradigm to an e-government paradigm focused on networks, collaboration and customer services. While this shift is being identified at city level, Ho goes on to argue that socioeconomic and organisational barriers are slowing the process, as a result of which government websites are not achieving their potential.

DiMaggio and Powell (1986, cited in Holzer & Kim, 2004, p.13) theorised that organisations model themselves on other organisations if they are uncertain in adopting new technologies. However, there appears to be no prescriptive model for transforming to digital government. Australian local governments in particular differ widely from each other in their socio-economic and technological contexts and engage in minimal collaboration on e-transformation efforts (Chimonyo et al., 2004; Eddowes, 2004). Where standard implementation methodologies have been successful, these have been driven by clear national frameworks with explicit goals and targets and firm direction (Eddowes, 2004). It would appear that a

more flexible process is required for the implementation of local e-government.

It has been proposed that the various requirements for effective e-government (Organisation for Economic Co-operation and Development (OECD), 2003a) include leadership, better e-government skills for managers and public-private partnerships. The increased flexibility and focus on interacting in a virtual rather than purely physical environment required by digital government is not a feature of bureaucratic management.

The NPM concept was articulated over a decade ago by Osborne and Gaebler (1992) to apply to the use of the business customer service model in government and a new view of the citizen as customer. It is a results-focused concept, promoting competition both within and external to government. Foster and Scott (1998, p. 105, cited in Van Gramberg & Teicher, 2000) defined NPM as:

> " … the intraorganizational separation both of policy and administration and of those purchasing and providing services; a commercial 'customer' orientation externally to the public and internally within the organization; use of tangible performance measures to track attainment of service outputs and quality targets; and the importation of human resource management practices into the public sphere" (p.478).

Hansen (2001, p.108) describes it as a: "… new orientation of the public sector towards the output and outcome dimensions of political and administrative decision making at the expense of input and process dimensions of public decision and policy making".

The results-oriented focus of NPM means local governments are becoming more accountable to their citizens and to the higher tiers of government, evidenced through a rise in the development of quality control and reporting measures. However, in the process managerial control is being surrendered to these higher tiers of government.

Local government accountability, coupled with the introduction of business practices and performance measures developed in the private sector, is effecting a fundamental change in the way services are delivered to customers. Hansen (2001) characterises this change along market and management-oriented dimensions. The market dimension is exemplified through increasing privatisation and contracting out. The management-oriented dimensions are exemplified by moves toward decentralisation of decision-making competence and responsibility, efficiency monitoring, the introduction of service and quality management systems such as Quality Assurance and benchmarking and joint forums of strategic leadership. Employee empowerment is a feature of this dimension.

New roles for councillors and administrative executives are emerging, with appointed executives acting as directors while councillors act as goal-steering decision-makers. Local government under NPM concentrates on the customer and the quality and targeting of services and customer relationships offered. The focus has now become the development of mechanisms to facilitate this in an increasingly digital environment. As Forbes and Milliken (1999) conclude in their study of cognition and corporate governance:

> "When directors are seen as stewards of organizational resources that impact, for better or for worse, the whole of society, the importance of understanding and improving the way they discharge their responsibilities becomes readily apparent" (p.502).

Hansen (2001) suggests that in the local government context, NPM could be renamed New Public Government, with debate about the extent to which the institution of government is being reorganised using NPM principles, along with the administration of government. Whatever the outcome of this debate, the benefits of NPM in preparing government for the digital era through increased customer focus, transparency and accountability are tangible and quantifiable.

In a study of high and low-performance councils in Melbourne, Australia, Marton (2003) found that there is no one management model for achieving

a high performance council. Adoption of NPM principles by local government ensuring financial monitoring and teamwork were endemic, although there was: " … considerable variability across a wide range of management practices " (Marton, 2003, p.57). However, the capacity of the top management team to work successfully with elected members and communicate effectively with citizens was identified as the only feature distinguishing high-performance from low-performance councils. As Marton (2003) suggests, clear distinction between the strategic and operational levels is often still an issue, particularly for elected members.

2.3.2 Transforming to deliberative democracy

While ICTs enable NPM outcomes of efficiency and effectiveness in government (Mower, 2001), their use is not an end in itself (McKay & Marshall, 2000; Symonds, 2000; Newell, Pan, Galliers, & Huang, 2001; Qureshi & Zigurs, 2001). Rather, as suggested recently (United Nations, 2003b) e-government development must sit within the context of citizen expectations and experience. While e-government services "... have proven instrumental in raising the efficiency and effectiveness of public administration, ... much more has to be done to fully realise their promise and potential to deepen deliberative democracy" (United Nations, 2003a p.1).

Kiss (2004) asserts the transformative potential for local e-government will be less than optimal while structural and cultural restraints continue to exist. Structural restraints such as the existence of local government only within state legislation may impede the development of what Kiss (2004) terms *"strong, citizen-based government"*. In the cultural context, the expectation gap developed in the shift from a *'services to property'* to *'services to people'* orientation (Crase & Dollery, 2005) is also restricting the development of local e-government. Citizens are seeking extra service provision but rejecting the political and economic context in which this may be achieved.

In developing a degree of interaction with their citizens in the digital environment, local governments must clearly distinguish between the short-term institutional (whether this be physical or virtual) and long-term interactive components of this type of government. The interactive component of e-governance seeks to engage citizens and government in dialogue throughout the political process leading to the end product of citizen-centric service delivery (Riley, 2003). Its focus is on the way decisions are made rather than the way they are implemented (Marche & McNiven, 2003). In so doing, complexities are created for government in its approach to interacting with their citizens and customers in a technology mediated environment. Whereas online service delivery is a feature of e-government, online engagement and consultation are features of e-governance. E-governance, including its subsets of e-democracy and e-participation, is vital to ensuring the sustainability of transformation to digital government.

2.3.3 From NPM to the digital state paradigm and digital-era governance

Dunleavy and Margetts (2000) suggest that rising use of the internet by both governments and citizens is challenging the NPM paradigm. In recent work (Dunleavy et al., 2006) they suggest that the shift to digital-era governance is coloured but not determined by IT changes in government. These changes enable indirect organizational and organizational cultural changes within government which in turn impact on other sectors in society. They propose four possible scenarios for web-enabling government in future (Figure 2-3):

1. Continuation of present NPM trends, strengthened through web-based development.
2. Government organisations lagging behind the rest of society in developing web presence.
3. Replacement of the NPM paradigm with a digital state paradigm.
4. A ‘policy mess’ where conflicting NPM and e-government initiatives produce no coherent direction of development.

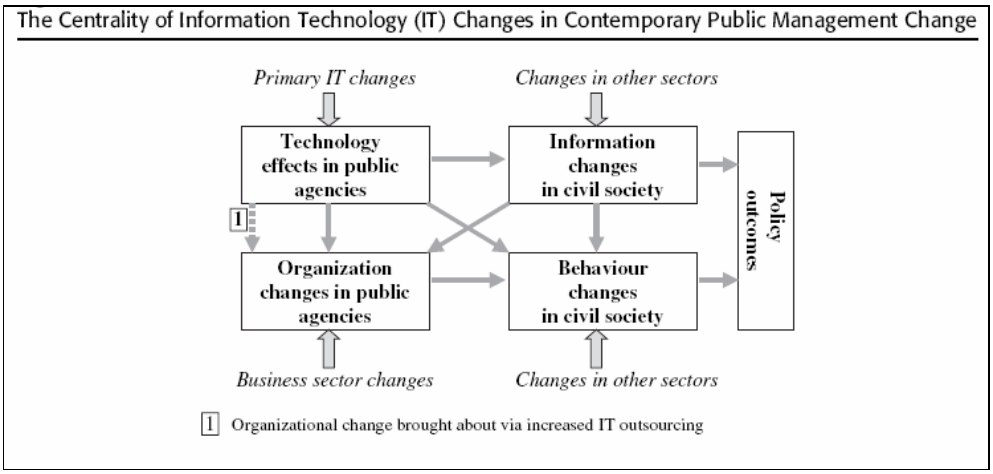


Figure 2-3 IT-enabled changes in contemporary public management [*source Dunleavy et al., 2006*]

Homburg (2004) endeavours to reconcile the position of the organisational variable of NPM in relation to the technological variable of e-government processes by proposing a conceptual framework based on external and internal government interfaces.

Homburg (2004) bases his discussion on the concepts of the external interface between government and citizens (represented by the concepts of service orientation and consultation) and the internal changes when ICT is introduced into government operations (represented by the concepts of virtualization and bureaucratization).

		Internal structuring	
		Virtualization	*Bureaucratization*
Interface with the outside world	*Service orientation*	"Electronic mediation for service delivery"	"Electronic hierarchy for service delivery"
	Consultation	"Electronic consultation enabling choice"	"Electronic consultation enabling voice options"

Figure 2-4 The four trajectories of reform [*source Homburg, 2004*]

From these concepts four possible trajectories for development of the NPM-e-government relationship are synthesised:

1. Electronic mediation for service delivery (resulting in a service network with external service orientation and internal virtualization interfaces).
2. Electronic consultation enabling choice (citizen as services customer, with external consultation and internal virtualization dimensions).
3. Electronic hierarchy for service (informational control in joined-up government with external service orientation and internal bureaucratization interfaces).
4. Electronic consultation enabling voice options (accountability and information distribution with external consultation and internal bureaucratization interfaces)

Homburg suggests (2004, p.554) there is no *'one size fits all'* model for merging NPM and e-government and concludes that: "A single marriage between new public management as a managerial innovation and e-government as a technological innovation is a fallacy".

However the revolution may have moved on, using NPM as a basis for progression towards different management models supporting digital government. In recent work, Dunleavy et al. (2006) assert that the NPM wave has stalled or even been reversed due to increased institutional and policy complexity associated with NPM implementation. They posit that the revolution in government brought about by the adoption of NPM principles is being carried forward in a shift towards what they term '*digital-era governance'*. They suggest (Dunleavy et al., 2006, p.481) that this type of governance is distinguished by three key themes, i.e.:

1. *Reintegration* where the various elements of NPM which had been separated out to different areas of the corporate hierarchy are reintegrated to remove the burden currently borne by citizens and other societal groupings to integrate public services into a usable package.
2. *Needs-based holism* whereby the restructuring of the relationship between an agency and its clients leads to more agile and responsive government

3. *Digitization changes* to enable electronic channels to be used as transformative rather than supplementary mechanisms of interaction.

Szirom, Lasater, Hyde and Moore (2001) define integrated governance as:

> " … the management of government provided, auspiced or sponsored service through integration within government (to include internal departments, as well as other levels of government such as local government, State and Commonwealth) as well as collaboration with sectors outside government" (p.3).

Such a definition implies an acknowledgement of mutual assistance and a movement away from the bureaucratic *'silo'* mentality to provide benefits to the citizen. Put another way, integration is used to enable a move away from an internal agency focus towards an external citizen focus.

In the same vein, Eggers and Goldsmith (2004) agree that public service delivery has moved on from that of hierarchical government bureaucracy.

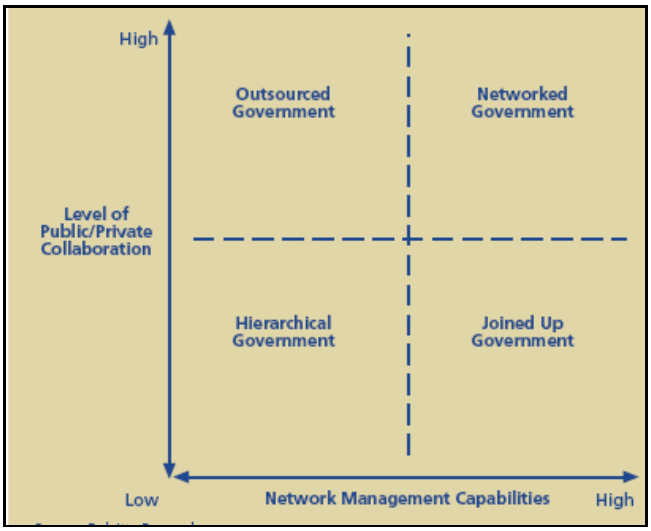


Figure 2-5 Capacity of various government models to succeed in the digital governance era [*source Eggers & Goldsmith, 2004]*

In a digital governance environment, government agencies at all levels are moving away from direct service provision and becoming instead what Eggers and Goldsmith (2004, p.3) define as *"levers of public value".* They suggest a network governance model for this new focus of government, arising from the convergence of the growth of outsourcing and the

movement away from disaggregated *'stovepipe'* NPM service delivery towards joined-up government service delivery (Figure 2-5). This model relies on ICTs to connect networks and ensuring accountability through incentives, measurement, trust and risk. Such a model requires different competencies and capabilities and the transformation of human capital to enable the basic platform.

The focus now is on providing digital government through both space and place orientation for citizens, using the internet and other communication technologies to provide increased access and interaction with citizens and extending the reach of the physical entity by virtual means. Digital government thus takes on some of the features of virtual organisations (Marshall et al., 2001). This provides a mechanism for local government to transform to local digital government, providing choice for the citizen through the maintenance of both a physical and a virtual presence for service delivery and interaction.

2.3.4 Digital government management

The response to a perception of too many small councils has usually been to suggest amalgamation to achieve cost efficiency and economies of scale (Soul, 2001, cited in Dollery, 2003, p.82). However, alternative views suggest structural reform through amalgamation may not be the most effective municipal model Allan (2001; 2003) or provide the financial efficiencies predicted (Dollery & Crase, 2004).

Allan (2001; 2003) proposed a virtual council model whereby a physical locus of councillors and support staff is still provided, but service delivery is handled through a common administrative shared services centre. Service delivery in this model can either be outsourced, or undertaken in-house, depending on a cost benefit analysis.

Dollery (2003) points out that this model does not address several areas which may lead to local government failure. These include:

1. Areas of municipal competition relating to tax revenue, policy choices and public-private partnerships in the delivery of public services.
2. A lack of consideration of the influence of local government consumer choice between service providers, consumer preferences and voter apathy on local government failure.
3. An erroneous assumption, unsupported by empirical evidence, that larger entities produce significant economies of scale.

Whilst acknowledging the significant ability of the virtual model to provide an alternative in the ongoing amalgamation debate in Australia, Dollery concludes this model cannot be uncritically applied.

The opportunity exists then to develop the virtual council concept into one achieving the aims of amalgamation (efficiency and economies of scale and scope) while retaining the physical face of the council entity to provide an identity locus for citizens and choice in the methods of interaction.

If we are in fact in the era of digital government, moving from NPM to incorporate the digital governance facet (Dunleavy & Margetts, 2000; Dunleavy et al., 2006), then a new conceptual model and associated management paradigm to support this ICT-centred change act and as a transformative enabler is required.

Gordon (2000; 2001) proposed the cybercentric management model for the virtually extended enterprise as an evolving model to manage the digital economic universe. This management model seeks to enable competitive advantage and quality customer-focused service delivery using technology and connectivity to increase knowledge and skill levels in a virtual environment.

Pearlmutter (1969, cited in Gordon, 2001, p.677) identified four generations of management models which developed as organisations expand their area of influence from the local to the global:

1. Ethnocentrism - overseas operations are secondary.

2. Polycentrism - independent subsidiaries established in overseas markets.
3. Regiocentrism - integrated regional management, regionally interdependent.
4. Geocentrism - integrated world structure of continued physical growth, worldwide interdependent.

Table 2-1 summarises the areas of distinction between the geocentric and cybercentric approach.

Table 2-1 Comparison of geocentrism and cybercentrism [*source Gordon, 2000]*

Cybercentrism dimension	Geocentrism	Cybercentrism
Management	Segregated IT and MIS	IT brought into key decision making.
Corporate Structure	Broad, hierarchical structure with vertical command	Flattening of the organisation with horizontal authority. Devolution of responsibility and accountability and delegation to the frontline.
Company Goals	Goals/objectives are known and not questioned by management	Goals/objectives are elastic and reinvented as customer needs evolve and change Flexibility in developing improved services.
Market Position	Defined by view of market structure as a physical presence	Virtually-extended enterprise presenting both a physical and virtual face to the customer and optimising services through use of ICTs.
Competitiveness	The organisation bitterly defends its knowledge	The organisation looks for opportunities to join with other organisations in mutually beneficial R&D ventures.
Employment	Lifetime employment	Supplementary use of contract workers and consultancy.
Strategic Vision	Vision defines strategies according to a limited choice of options	Cyber vision offers a wide range of strategic options limited only by the ability to alter perceptions, intervene, or destabilise existing realities.

Cybercentric management is designed to enhance customer outcomes through flatter management, flexibility, efficiency and increased accountability. Its various dimensions support digital-era government, including networked and joined-up government to provide outcomes as local governments move from a place to a space orientation in interacting with citizens. In contrast, geocentric management focuses on bureaucracy, the physical environment and marginalisation of information technology and management information systems from the decision-making process. These dimensions cannot develop and sustain digital-era government. Delivering local digital government requires a strategic vision whereby citizen benefit is maximised. It will also require flexibility and a willingness to collaborate to produce cost-effective outcomes with a flatter hierarchy, without necessarily travelling the amalgamation route to achieve this.

2.4 e-Government Benchmarking

Conceptual models for assessing e-government.

Various authors (including Bannister, 2004; Janssen et al., 2004; Mosse & Whitley, 2004; Peters, Janssen, & van Engers, 2004) have identified the wide variety of benchmarking models and associated assessment criteria and the problems inherent in classifying websites using these tools. The need has been expressed for more in-depth consideration of what is being benchmarked as well as addressing: "basic conceptual problems in evaluation … as well as more fundamental problems with scoring" (Bannister, 2004, p.1).

Most conceptual models of e-government are based on staged models developed by consultants, international organisations and in some cases by governments (for example: National Audit Office (NAO), 2002; Janssen et al., 2004; Capgemini, 2005; Asia Oceania E-Business Market Alliance (AOEMA), nd). These models describe a variety of sequentially implemented stages (ranging from three to five or more depending on the model) culminating in transformative e-government. Various performance

measurement criteria, often not made explicit and differing with the model used, are then assigned and used to rank government websites, the most successful being seen as those implementing the greatest number of criteria associated with the model, irrespective of the social context in which these websites exist.

As Shackleton et al. (2004) pointed out in their consideration of the applicability of e-business maturity models to the assessment of local government websites, such sites often exhibit areas developing at different rates, with non-integrated moves towards e-democracy and e-governance. A content matrix in the four categories of e-Management; e-Service; e-Commerce and e-Decision Making/e-Democracy was applied to a survey of local government websites in Australia. The results showed that while there was little development of e-government on Victorian local government websites beyond the publishing of information, noticeable development was taking place in the e-governance category.

It was suggested this was a consequence of a need to promote the use of the websites. It could equally, however, be a manifestation of the development of interaction spaces driven by citizen requirements at the level of government closest to the citizen. It may be that at this level, citizens are close enough to require more participatory e-spaces, particularly if the UNESCO (2004) assertion is correct that the impact of ICTs on the government-citizen relationship can be most effective at the local level.

Shackleton et al. (2004) concluded that the use of staged, linear progression models may not adequately describe the maturity of virtual government and that a different service maturity model for local government was required.

In the push to benchmark and rank e-government success, the important distinctions between what constitutes e-government and e-governance are being blurred, with the terms often used interchangeably. This lack of

clarity has led to a diversity of benchmarking tools being used, often with widely varying assessment criteria and analytical outcomes. Objectivity and repeatability of assessment outcomes and the use of these outcomes in longitudinal analysis is therefore compromised. The question inevitably arises as to whether these tools are really assessing the outcomes of virtual government, or are merely measuring what can easily be measured (Peters et al., 2004). The clarity of purpose of the frameworks underlying such assessment has also been questioned (Jansen, 2005). The citizen context can be lost, with measurement criteria relating generally to NPM-based performance measures aimed at assessment of superficial features of e-government.

An illustration of the problem of using these benchmarking methods is provided by Accenture (2001). In its report on the progress made in implementing e-government across the world, the concepts of service maturity breadth (the number of services online) and service maturity depth (a subjective assessment of the level of completeness with which each service was offered) were introduced into the methodology for ranking countries. The report discussed the need for governments to take a citizen-centric intentions-based design approach leading to an online presence related to the needs of the citizen, however these metrics measure only volume and complexity without corresponding consideration of the social, political or economic context surrounding each country's online government initiatives.

In recent years, many models and tools to benchmark progress in implementing online government have been proposed by consultants, governments and other organisations (*for example* Accenture; Cap Gemini; Ernst & Young; the Bertelsmann Foundation; the Gartner Group; the Cyberspace Policy Group's Website Attribute Evaluation System (WAES) and The Office of the e-Envoy (UK), to mention but a few). These models have an e-commerce genesis and present online government as multi-staged, with linear, sequential implementation of these stages. Their use develops a competitive mentality in government whereby the focus

becomes one of conforming to notions of best practice driven by these models, thereby avoiding headlines such as *'UK slipping in e-government league'* (Clark, 2005).

Progress towards local e-government transformation can be aligned with assessment of council web sites. Generally a linear progression along a continuum has been used to rank the service maturity of web sites. The number of categories for defining maturity varies. For example, Accenture (2001) used three categories, i.e.:

1. **Publish** (static information and one-way provision of information).

2. **Interact** (capacity for communication is present and a two-way feedback opportunity is available for citizens).

3. **Transact** (capacity for complex interaction, including online transactions is present).

Increasingly a fourth category of **Innovation** is being used for those sites which engage citizens as partners in policy making (Caldow, 2004). Characteristics of this interactive/strategic category include providing options for domestic citizen engagement such as e-petition; e-consultation and e-policy to achieve the service outcomes and priorities of e-citizenship and democratic accountability (Department of Transport Local Government and the Regions (DTLR), 2002)

Table 2-2 sets out the five stages of the UN Web Measure Assessment Model. This model assumes e-government development is not linear.

Table 2-2 Stages of the UN Web Measure Assessment Model (United Nations E-Government Readiness Knowledge Base, 2006)

Web Measure Assessment Stage	Characteristics
I. Emerging Presence	Limited and basic information Basic web presence established
II. Enhanced Presence	Enhanced access to information on public policy and governance Unidirectional interaction with citizen
III. Interactive Presence	Interactive online services available Contact with government officials enabled
IV. Transactional Presence	Bi-directional interaction between citizen and government
V. Networked Presence	Integration of all the interactions of e-government (i.e G2G; G2C; and C2G) Encouragement of participatory decision-making Online consultation and comment mechanisms are available

The criteria used for assessments linked to these models are either not made explicit, or appear to be subjective, constantly changing and often superficially focused on the number of services available or on subjective assessments of depth of the services offered, making benchmarking of results over time impossible.

Janssen et al. (2004) analysed and categorised eighteen benchmarking studies in their study funded by the Flemish government. Although all purported to evaluate e-government, the outcomes were found to fall into four different categories depending on the focus and scope of the study. Such variance in benchmarking results can lead to inappropriate and ineffective policy decisions.

In their discussion of classification and benchmarking, Mosse and Whitley (2004) suggest that current private sector benchmarking methods for assessing UK e-government websites create of themselves a particular

government view of citizens solely as customers. They posit that such a view is not comprehensive, but becomes embedded and then acts as the driving force in future best practice benchmarking.

The conceptual framework for the selection of criteria in current assessment tools has become firmly rooted in the private sector and the model of government as business. Thus any current classification towards some ideal of best practice is not undertaken from first principles, but from a set of criteria containing within them an implicit assumption that the roles of online government are that of organisation and customer. Tools such as the WAES (Cyber.state.org, 2001), relying as it does to a great extent on measurement of NPM characteristics of openness and transparency, will not reveal the interactive components of e-governance or focus on citizens rather than customers. Similarly, the use of private sector website assessment tools such as WebQual (Barnes & Vidgen, 2000), even though these are well researched, is not appropriate for the assessment of citizen-related outcomes.

2.5 Virtual models

Including the development of the Virtually Extended Enterprise to enable e-government..

2.5.1 e-Government and public choice: the virtual organisation

Enterprises are moving from the workplace towards the workspace orientation and local government is no exception. With this shift comes a change in business models towards collaborative agreements and alliances and the development of virtual knowledge relationships (Gordon, 2000; Eggers & Goldsmith, 2004).

According to McCartney (2000), an e-government approach is centred around the principles of providing choice, accessibility, social inclusion and better information use. Robins and Burn (2003) have suggested the use of the virtual organisation as a value-alliance model to improve customer service at the State government level.

The proposed benefits to be gained for local government from operation as a virtual organisation to provide local e-government (Burn, Marshall, & Wild, 1999; Stough, Eom, & Buckenmyer, 2000; Mower, 2001; Department of Transport Local Government and the Regions (DTLR), 2002) include:

- maximised resource sharing
- economies of scale
- enhanced outcomes with no additional bureaucracy
- the development of fields of work rather than organisations of jobs
- flexibility
- accountability and transparency
- better customer focus, with services more convenient, accessible and responsive.

Virtual structures exist outside physical boundaries, primarily as ' … a network of independent, geographically dispersed organisations with a partial mission overlap.' (Bultje & van Wijk, 1998). This characterisation can be expanded to include the concepts of: " … electronically networked organisations that transcend conventional organisational boundaries", and use communication and information technology to minimise the necessity for physical structures to produce effective outcomes (Burn et al., 1999, p.22) and make the system practical (Cooper & Muench, 2000).

Local government acting as a virtual organisation is an important extension of choice for the citizen. Personal contact can still be maintained for those customers who choose this, but equally, services are accessible to those who prefer to interact virtually. Whilst cautioning against uncritical application, Dollery (2003) concludes:

> "The chief significance of virtual government in a specifically Australian context resides in its apparent ability to capture the representational strengths of 'small' councils and at the same time secure the advantages that may accrue from 'large' municipalities, especially in terms of economies of scale and scope" (p.80).

2.5.2 Designing new conceptual models: incorporating e-governance

Stamoulis, Gouscos, Georgiadis and Martakos (2001) modelled the online service delivery aspect of government operating on the web in the context of the business-oriented ICDT platform proposed by Angehrn (2004). This platform is based on the concept of interaction spaces in the virtual service space, described from four perspectives:

1. ***Virtual Information Space (VIS)*** –displaying and accessing company-, products - & service-related information
2. ***Virtual Communication Space (VCS)*** –engaging in relationship-, ideas- and opinion-building activities.
3. ***Virtual Distribution Space (VDS)*** –distribution of products and services (including goods and services).
4. ***Virtual Transaction Space (VTS)*** –initiating and executing business related transactions (e.g. orders, payments).

These interaction spaces could be said to correspond to three of the most commonly cited stages in many staged e-government models (with their service maturity aspects, identified by Accenture (2001), listed in brackets):

VIS ≡ ***Publish*** (Passive/Passive)
VCS ≡ ***Interact*** (Active/Passive); and
VTS ≡ ***Transact*** (Active/Active).
VDS corresponds to the *online service delivery space* on government websites.

The ICDT platform is designed to permit the development of user-defined interaction spaces in a business environment, based in collaborative knowledge-sharing. It is therefore used later in this study (*see* Chapter 4) as the basis for conceptualising the e-government and e-governance features of local digital government.

The clear correspondence of the quadrants of Angehrn's model to e-government benchmarking stages proposed in previous models emphasises the business nature of e-government implementation. The potential to interact in random e-spaces outside this organisational space is recognised in the ICDT model, but its organisation-centric view limits the progression to citizen-focused interaction in these spaces.

2.5.3 The virtual government model

Incorporating VROCs to provide virtual advantage. The concept of the VEE in local e-government.

Local government is seeking to transform itself, with an increasing focus on: " … entrepreneurship, efficiency and quality" (Van Gramberg & Teicher, 2000, p.1).

The Structural Reform Advisory Committee Report (Local Government Structural Reform Advisory Committee (SRAC), 1996) noted that, while there was 'scope for some rationalisation of boundaries, there is no justification for a wholesale government-driven agenda of local government amalgamations'. The Report benchmarked savings from mergers for metropolitan councils, identifying notional annual savings of $15.8 million to $53 million in urban areas. It identified three criteria for viability:

- Governance costs less than 10% of expenditure;
- Debt service less than 33% of rate income; and
- Less than 50% of income derived from Federal Government Financial Assistance Grants.

However, a recent report (Local Government Advisory Board, 2006) based on enhancing the triple bottom line of economic, environmental and social sustainability for communities, recommended forced amalgamations and boundary changes in thirteen metropolitan and regional areas of Western Australia. If forced amalgamation is not universally accepted as the best way of facilitating effective local government, other models for providing the service delivery and interaction required must be devised.

The term Virtually Extended Enterprise (VEE) is a business-based one, coined by Hammer (2001). It refers to an organisation which seeks to collaborate with other organisations, sharing information outside its boundaries. It can be argued that the VEE is the service delivery mechanism for local government effecting the transformation to local e-government and seeking to maximise resource use. Not all councils need hold the necessary expertise and collaboration through knowledge-sharing initiatives builds networks and efficiencies.

Local government acting as a VEE also provides an important extension of choice for the citizen. Personal contact can still be maintained for those customers who choose this, but equally, services are accessible to those who prefer to interact virtually.

Whilst the VEE multi-organisational collaborative effort is designed to improve business outcomes, it is mainly focused on the *'push'* aspect of information dissemination and collection, rather than the *'pull'* aspect of any collaborative decision-making. Indeed in the commercial environment this may well contravene legislation and be detrimental to the businesses concerned.

E-government as a VEE can be conceptualised (Figure 2-6) using the ICDT model (Angehrn, 1997, 2004) and Homburg's interface concept (Homburg, 2004). This enables identification of the potential for boundaries to become *'leaky'*, allowing collaboration through consultation and networks and the formation of knowledge. The central focus remains, however, that of the organisation as a physical entity.

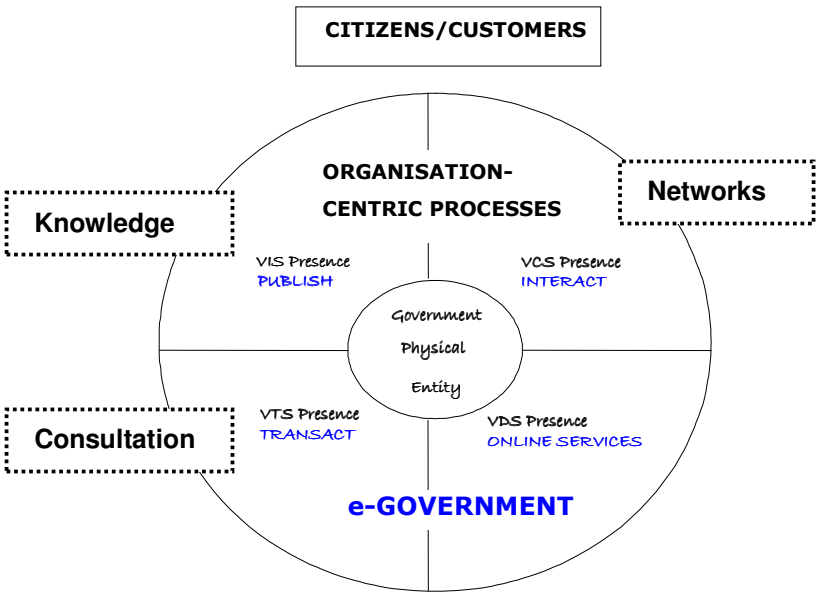


Figure 2-6 The Virtually Extended Enterprise: A "citizen-as-customer" focus [Stanton (2005) *based on Angehrn (1997, 2004) and Homburg (2004)*]

ICTs are being utilised to reform business processes in local e-government to achieve this focus in delivering better public services (Mower, 2001), laying the foundations of a new form of communication with their customers and the development of frameworks for this service delivery. Not every member council holds all the required expertise and competence, and acting virtually to achieve a mutually beneficial outcome is a real alternative.

Other writers (McKay & Marshall, 2000; Symonds, 2000; Newell et al., 2001; Qureshi & Zigurs, 2001) caution that while technology is important and necessary in a virtual organisation, it is not the sole defining characteristic delivering business value. Culture, the degree of linkage within the networks and the nature of the market are also important (Watson, 2000). Connectivity is the driver to: "seamlessly communicate, collaborate and evolve company systems, and innovate product development …" (Gordon, 2001, p.681).

As the central focus of e-government is the organisation, the VEE adequately describes e-government operation. However, as the organisational focus shifts from that of backroom processes and service delivery online to interaction with the citizen, a new conceptual model is required to facilitate information sharing, collaboration (including collaborative decision-making), and full online civic engagement (Smith et al., 2005). This model would build on the VEE (Figure 2-6) to establish online citizen interaction in areas such as networks; participation and consultation.

2.6 Local digital government in Australia: literature limitations

The facets of e-government are now widely recognised and researched. However, research into local digital government in Australia is a new field. The term *'digital government'* is used in this study to describe a form of government extending the concept of e-government to include that of e-governance. It is a proactive citizen-centric form of government, engaging the citizen to ensure effective online service delivery, improved public policy-making and participatory democracy.

The published literature concerning local e-government and digital government progress in Australia is sparse and mainly centred on local governments in Victoria, where 220 councils were collapsed into 28 in 1994. This state has a strong e-government program (Multimedia Victoria, 2002) focused on building citizen-centric e-government as part of its Connecting Victoria policy.

Although helpful in providing a broad overview of aspects of local e-government development and progress in Australia, these studies are limited by small sample size or case study selection (Shackleton, 2002; Shackleton et al., 2004, 2005) or are designed to provide impetus for future development in the area of e-governance (Chimonyo et al., 2004). Other studies have a limited focus on managerialism in local government

management, once again centred in Victoria (Van Gramberg & Teicher, 2000; Marton, 2003).

An investigation of the attitudes of elected and appointed officers towards their digital government management environment in terms of the cybercentrism management paradigm and the degree of convergence of these attitudes is lacking, as is an exploration of these leaders' intentions to engage with citizens through the web.

Australian survey results reported previously (Teicher & Dow, 2002) used an instrument based on European and American e-government assessment, applied across all three levels of government in Australia. Whilst benchmarking information on e-government implementation and managerial attitudes, no complementary survey of political attitudes was undertaken to assess the convergence of the two. E-governance implementation was not included in the instrument. Similarly, there is no published assessment of TMT leader attitudes towards engaging with citizens and business in an online environment, an important function of digital government.

Website assessment tools have been used previously to illustrate the basic level of information site development of local e-government websites. A survey of 22 websites across Australia was reported by McKeown, Teicher and Dow (2004). However the sample size was small and the assessment tool investigated e-government facets only.

Similarly, the content analysis of 25% of Victorian local government websites (Shackleton, 2002; Shackleton et al., 2004, 2005) provided a limited e-governance focus. Recently, this analysis has been expanded with the addition of the category of e-Management and one case study (Shackleton et al., 2006), The study concluded that conventional linear e-commerce and e-government maturity models are not applicable in the case of local government as this level of government traditionally focuses more on active community participation and interaction. However e-

governance analysis using this model is still limited as the full development of the various components of e-government and e-governance web spaces is not addressed. An assessment tool for benchmarking both facets of local digital government in Western Australia is required.

A new survey instrument, designed for local government, based on the Local Digital Government Framework developed as part of this study and encompassing the areas of both e-government and e-governance is required. Such an instrument could also provide a test of the nomological validity of the constructs of previous instruments used in the field of local government, a practice Boudreau, Gefen and Straub (2001) recommend as desirable in positivist, quantitative research. If that new instrument is based on development from existing instruments, this will also provide a degree of comparability to progress accumulation of knowledge in the field.

This study addresses the perceived gaps identified in the literature review. It seeks to provide the following outcomes:

1. Development of a new Local Digital Government Framework, incorporating a citizen-centric government model and associated management paradigm for local digital government.
2. Development of a new survey instrument to explore the attitudes of both elected and appointed TMT leaders towards the concepts of the Local Digital Government Framework and the level of convergence of these attitudes.
3. Development of a method to demonstrate any change in TMT leader attitudes to the concepts of local digital government over time.
4. Development of a website assessment tool for local e-government, based on the e-space and incorporating both e-government and e-governance facets of digital government.
5. Establishment of the first local digital government benchmark for Western Australia.

The Australian and Western Australian local government context for the current study is discussed in Chapter 3.

3 LOCAL GOVERNMENT IN AUSTRALIA

This chapter provides a broad overview of local government in Australia, with a more detailed profile of Western Australian local government structure and issues. Structural reform imperatives are changing the face of local government in Australia. Local e-government has become a reality, and pressure is building to move towards digital government with its citizen focus. The national e-government framework and related local e-government initiatives provide some basis for the development of a wider range of structural reform mechanisms than amalgamation alone.

3.1.1 The role of local government in Australia

In 2004-05 (Department of Transport and Regional Services (DOTARS), 2006) there were 703 local government authorities in Australia. Alternative terms used to describe these authorities include councils, shires and local councils.

The distribution of councils shown in Table 3-1 is calculated using the Australian Classification of Local Governments (ACLG), developed in 1994 to categorise councils based on population, population density and the proportion of the population classified as urban for the council (Department of Transport and Regional Services (DOTARS), 2005). The majority of councils in Australia are in the regional and rural category, with the exception of Victoria which has a relatively balanced representation of urban and regional councils.

Table 3-1 Distribution of Australian councils by state [*source* DOTARS, 2006]

	NSW	Vic	Qld	WA	SA	Tas	NT[a]	Total
Urban								
No.	43	33	32	29	19	2	2	160
%	27	41	20	20	26	7	3	23
Regional and Rural								
No.	114	47	125	113	55	27	62	543
%	73	59	80	80	74	93	97	77
Total								
No.	157	80	157	142	74	29	64	703
%	100	100	100	100	100	100	100	100

Notes: Calculated using ACLG (see Appendix F) and includes Urban Capital City, Urban Developed and Urban Fringe categories.
[a] Includes Northern Territory Trust Account.
Source: Department of Transport and Regional Services.

The size of council constituencies is also widely variable, ranging from Brisbane City Council in Queensland with almost a million residents in an area of 2,000 square kilometres, to the Shire of Murchison in Western Australia servicing 29 stations with up to 160 residents over 50,000 sq km. The largest council by area is East Pilbara, in Western Australia, which coves an area of approximately 380,000 sq km with a population of 7,000 residents (Bell, 2005).

Employment numbers in the local government sector have been steadily increasing since 2001, despite rationalisation of councils through forced and voluntary amalgamations. In February 2005, there were 165,100 Australian local government sector employees. Each employee served, on average, 121 citizens.

The responsibilities of Australian councils are typically narrower than in other countries and vary widely between States and their respective local government authorities. Table 3-2 shows the expenditure in various areas for the councils in each state.

Table 3-2 Varying expenditure areas of councils by State 2003-2004 [*source* DOTARS, 2006]

Purpose	NSW	Vic.	Qld	WA	SA	Tas.	NT	Total
General public services	42	114	33	2	3	17	33	244
Public order and safety	27	-	2	11	-	-	1	41
Education	6	13	2	1	0	0	-	22
Health	4	5	3	2	1	2	4	21
Social security and welfare	70	188	18	28	10	2	6	322
Housing and community amenity	57	18	65	5	6	3	58	212
Recreation and culture	42	23	48	27	15	6	6	167
Fuel and energy	-	0	1	0	3	0	-	4
Agriculture, forestry, fishing and hunting	-	-	-	1	-	0	0	1
Mining, manufacturing and construction	3	0	3	-	-	0	4	10
Transport and communications	126	136	287	163	34	26	13	785
Other economic affairs	3	5	15	6	2	-	13	44
Other purposes	338	176	150	93	80	6	-75	768
Total	718	678	627	339	154	62	63	2 641
Less Australian Government financial assistance grants#								
General purpose grants	353	260	199	103	81	25	10	1 032
Local road grants	135	96	87	71	26	25	11	451
Net State grants	230	322	341	165	47	12	42	1 159
Net State grants per capita	34.28	65.24	88.54	83.92	31.03	25.29	20.99	58.94

Note: #These grants are included in the grants paid by States to local government although the purpose does not appear to be reported consistently across States in the table. These are the amounts actually paid as they include the adjustment from the previous year.
Source: Australian Bureau of Statistics unpublished data, Department of Transport and Regional Services.

Australian local government responsibilities can include areas such as planning, building, road maintenance and sewers, parks and public facilities. The Northern Territory local governments are unique in having no town planning responsibilities. Local government is responsible for water and drainage in only three of the six states. The role of local government has expanded in recent years (Department of Transport and Regional Services (DOTARS), 2005) to encompass additional areas such as "... governance, advocacy, services delivery, planning and community development, and regulation. There is no longer a standard definition of 'core' local government services such [sic] 'roads, rates and rubbish'."

The declaration on the role of local government made by the 1997 National General Assembly of Local Government (Local Government Advisory Board, 2006, p.5), defined twelve roles of local government in Australia:

1. A partner in the federal system.
2. Responsive and accountable to the local community.
3. Provide good local governance.
4. Exercise local autonomy.
5. Provide leadership and advocacy.
6. Promote active citizenship at the local level.
7. Foster local identity and civic pride.
8. Secure community cohesion.
9. Local services delivery.
10. Facilitate community development.
11. Foster regional cooperation.
12. Adapt to change.

National and state investigation of the level of structural and expectation gaps in Australian local government and possible mechanisms from collaboration and resource sharing to amalgamation to address these gaps and the wide and variable role expected from local government, has resulted in the production of a number of reports. At a national level these include:

- Commonwealth Grants Commission Report (CGC) (2001);
- Commonwealth House of Representatives Standing Committee on Economics, Finance and Public Administration ('Hawker Report') (2004): *Rates and Taxes: A Fair Share for Responsible Local Government*; and
- PriceWaterhouseCoopers (PWC) Report (2006): *National Financial Sustainability Study of Local Government.*

At the state level these include:

- South Australian Financial Sustainability Review Board Report (2005): *Rising to the Challenge;*
- Independent Inquiry into the Financial Sustainability of NSW Local Government ('Allan Report') (2006): *Are Councils Sustainable*
- Queensland Local Government Association (LGAQ) Report (2006): *Size, Shape and Sustainability;* and
- Western Australian Local Government Association (WALGA) Report (2006): *Systemic Sustainability Study: In Your Hands – Shaping the Future of Local Government in Western Australia;* and
- Tasmanian Local Government Association (TLGA) Report (2007): *A Review of the Financial Sustainability of Local Government in Tasmania.*
- Western Australian Local Government Advisory Board (2006) Report: *Inquiry into Local Government Structural and Electoral Reform in Western Australia* : *Ensuring the Future Sustainability of Communities.*

Such pressures are not unique to local government in Australia, with the landmark Lyons Report (Lyons, 2007) identifying a number of constraints on the ability of local government to fulfil its "place-shaping" role through the provision of services and programs to meet the needs and expectations of its community and citizens. The identified constraints include:

- High level of central control by upper tiers of government;
- Lack of flexibility over existing resources;
- Limited flexibility in raising additional resources;
- Pressure on services;
- Confused accountability;
- The need to improve governance for economic prosperity;
- Attitudes towards local government and choice;
- Lack of trust in the system of government;
- The need for effective engagement; and
- Poor incentives in the distribution of national resources.

Collaboration and e-government are identified in the report as two of the key aspects of efficiency to enable local government to operate effectively for the citizen.

Cost shifting is increasing pressures on local government across Australia. Dollery, Crase and Johnson (2006) point out this can take different forms such as inadequate indexation of grants; the obligation to provide services initiated by other levels of government; increasing the local government fees and contributions burden and unfunded mandates (such as the Emergency Management Act (2006) requirements imposed on Western Australian local governments).

As a result of the Hawker Report on cost shifting (House of Representatives Standing Committee on Economics Finance and Public Administration, 2003), the federal government has acknowledged that these roles are expanding without accompanying revenue expansion and that: “The adequacy of resources available to local government is significantly and negatively impacted by cost shifting on to local government by State and Territory Governments” (Commonwealth of Australia, 2005, p.5). Other reports investigating local government efficiency and effectiveness at a national and state level are listed in Chapter 1.

In 2002, the Australian federal government released its first e-government strategy (National Office of the Information Economy (NOIE), 2002). Acknowledging that at times implementation has been *ad hoc* and uncoordinated, a new citizen-focused strategy (Australian Government Information Management Office (AGIMO), 2006b) was launched in March 2006 to guide future development in a more coordinated way. Significantly, this strategy seeks to work with the devolved nature of Australian government rather than attempt to centralise e-government implementation.

The UN e-Government readiness rankings are based on an assessment of countries worldwide with respect to their state of e-readiness and the extent of e-participation. Despite the lack of consistency in ranking measures, they enable some comparability at a general level to be made.

Table 3-3 e-Readiness rankings 2003-2005 [*source* UN, 2006]

Country	*2005*	*2004*	*2003*	*Change 2005-2004*	*Change 2005-2003*
United States	1	1	1	0	0
Denmark	2	2	4	0	2
Sweden	3	4	2	1	-1
United Kingdom	4	3	5	-1	1
Republic of Korea	5	5	13	0	8
Australia	6	6	3	0	-3
Singapore	7	8	12	1	5
Canada	8	7	6	-1	-2
Finland	9	9	10	0	1
Norway	10	10	7	0	-3
Germany	11	12	9	1	-2
Netherlands	12	11	11	-1	-1
New Zealand	13	13	14	0	1
Japan	14	18	18	4	4
Iceland	15	14	15	-1	0
Austria	16	17	21	1	5
Switzerland	17	15	8	-2	-9
Belgium	18	16	23	-2	5
Estonia	19	20	16	1	-3
Ireland	20	19	17	-1	-3
Malta	21	21	27	0	6
Chile	22	22	22	0	0
France	23	24	25	1	2
Israel	24	23	24	-1	0
Italy	25	26	17	1	-8

Although Australia's position in this index has declined slightly since 2003, as one of the wealthy countries of the world it maintains a consistently high ranking (Table 3-3). Australia and New Zealand maintain their position at the top of the rankings in Oceania (Table 3-4).

Table 3-4 e-Readiness rankings 2004-2005. Oceania group [*source* UN, 2006]

		Index	Rank in:		Change
		2005	2005	2004	
1	Australia	0.8679	6	6	0
2	New Zealand	0.7987	13	13	0
3	Fiji	0.4081	81	84	3
4	Samoa	0.3977	91	92	1
5	Tonga	0.3680	104	95	-9
6	Solomon Islands	0.2669	140	134	-6
7	Papua New Guinea	0.2539	142	142	0
8	Vanuatu	0.1664	165	164	-1
9	Palau	0.0564	175	177	2
10	Micronesia	0.0532	176	175	-1
11	Marshall Islands	0.0440	177	176	-1
12	Tuvalu	0.0370	178	..	..
13	Nauru	0.0357	179	178	-1
	Average	0.2888			

However, in the e-Participation index (Table 3-5), which assesses the relevance and usefulness of e-participation features on government websites and how well these are used in developing participatory democracy, Australia ranks ninth.

Table 3-5 e-Participation rankings 2004-2005 [*source* UN, 2006]

	Country	Index	Rank in			Change
		2005	2005	2004	2003	2004-2005
1	United Kingdom	1.0000	1	1	1	0
2	Singapore	0.9841	2	4	13	+2
3	United States	0.9048	3	2	2	-1
4	Canada	0.8730	4 (tie)	3	3	-1
5	Republic of Korea	0.8730	4 (tie)	6	12	+2
6	New Zealand	0.7937	5	6	5	+1
7	Denmark	0.7619	6 (tie)	7	14	+1
8	Mexico	0.7619	6 (tie)	6	9	0
9	Australia	0.7143	7	8	8	+1
10	Netherlands	0.6984	8	5	7	-3
11	Estonia	0.6190	9	9	4	0
12	Chile	0.5873	10 (tie)	11	3	+1
13	Colombia	0.5873	10 (tie)	10	28	0
14	Sweden	0.5714	11	13	10	+2
15	Finland	0.5556	12 (tie)	13	14	+1
16	Germany	0.5556	12 (tie)	12	11	0
17	Belgium	0.5079	13	11	21	-2
18	Brazil	0.4921	14	23	16	+9
19	Malta	0.4762	15(tie)	14	18	-1
20	Philippines	0.4762	15 (tie)	17	6	+2
21	Japan	0.4603	16	21	15	+5
22	Switzerland	0.4286	17 (tie)	20	13	+3
23	Venezuela	0.4286	17 (tie)	21	28	+4
24	Austria	0.4127	18 (tie)	15	29	-3
25	France	0.4127	18 (tie)	14	7	-4

The e-Participation score includes an assessment of the degree of e-information, e-consultation and e-decision-making achieved.

Various Commonwealth Government initiatives have been devised with the objective of providing access to virtually all government services at any time and eventually developing participative democracy (*see also* Appendix One). These include (Australian Government Information Management Office (AGIMO), 2002):

1. *Networking the Nation,* a five-year $460 million Regional Telecommunications Infrastructure Fund set up in 1997. Project areas include:
    - Awareness-raising of the availability of online services and facilities.
    - Fixed infrastructure.
    - Internet access facilities.
    - Development of Internet points of presence.
2. The $158 million *BITS programme* building the strength and competitiveness of the Australian information industries sector, including fostering much stronger commercialisation linkages with R&D organisations
3. The *Advanced Network Programme* to fund test-beds, experimental networks and other information infrastructures, and the creation of clusters of innovative ICT businesses.
4. The *National Communications Fund* (NCF) a $50 million package to assist in the rollout of the infrastructure and applications to enable high-speed telecommunications networks to deliver education and health services in regional Australia.
5. The $2.1 million *Broadband Content Fund* to provide seed funding for innovative Australian content producers to pursue opportunities in new broadband applications.
6. The *Creative Industries Cluster Study* to analyse Australia's strengths and capabilities in producing digital content and applications and look at ways creative industries can form strategic alliances, develop new

business models and ways of working, as well as assessing the key capabilities that Australia needs for the future.

Cross-government portals are being developed, but there is concern about the ability to synchronise all levels of government to this extent.

3.1.2 Structural reform in Australian local government

Council amalgamations, both voluntary (as in New South Wales, South Australia and Tasmania) and forced (as in Victoria and potentially Queensland) have been used in an effort to achieve cost effective local service provision. Forced amalgamations have been resisted in Western Australia. A recent report (Local Government Advisory Board, 2006) recommending a number of amalgamations among Western Australian local governments to achieve efficiency was fiercely opposed by both Councils and their peak body, leading to the Minister for Local Government undertaking to seek only voluntary implementation of its recommendations. A recent report prepared for WALGA (Craven, McKenzie, & McCullagh, 2006) outlines the continued decrease in LGA numbers between 1910, 1991 and 2004.

Local Government 1910–2004, by State [4]

State	Councils 1910[a]	Councils 1991[a]	Councils Sept. 2001[b]	Councils Sept. 2004[c]	% change 1991–2004
NSW	324	176	172	152	-13.6
Vic.	206	210	79	80	-61.9
Qld	164	134	125	125	-6.7
WA	147	138	142	142	2.9
SA	175	122	68	68	-44.3
Tas.	51	46	29	29	-37.0
NT	n/a	n/a	7	7	n/a
Total	**1067**	**826**	**622**	**603**	**-27.1**

[4] Sources: [a] Sproats, K 1996 Comparisons of agendas and processes in Australian Local Government. Paper presented to the Local Government in Queensland Centenary Conference, August 1996, p. 5. [b] National Office of Local Government, from information provided by State Local Government associations and individual councils. [c] Totals exclude Indigenous and other local governing bodies receiving Federal Government financial assistance grants.

Figure 3-1 Council numbers 1910-2004 [source Craven, McKenzie & McCullagh, 2006b]

There is basic agreement on the drivers enabling transformation to e-government. These include vision/political will; common frameworks /cooperation; customer focus and responsibility encompassing accountability, monitoring and evaluation (Organisation for Economic Co-operation and Development (OECD), 2003a); strategic investment; and civic engagement in defining a shared vision of e-government (The Center for Democracy & Technology, 2002 ; Organisation for Economic Co-operation and Development (OECD), 2003b). These drivers apply equally to federal, state and local levels of e-government and are represented in the dimensions of the cybercentric management model.

One of the arguments proposed to support amalgamation in the past has been that large, hierarchical, multipurpose organisations are the best way to provide local public services at the same time as achieving economies of scale, scope, administration and compliance costs. However, Crase and Dollery (2005) argue that with the development from a *'services to property'* to a *'services to people'* focus, along with growth in the 'public choice' perspective, efficiency and responsiveness are enhanced when the local government structure is based on markets and competition rather than on structural and administrative consolidation.

The potential exists therefore to apply the cybercentrism concept (Gordon, 2000, 2001), including its dimensions of flattened corporate structure, virtual market orientation, mutually beneficial competitive strategies along with a focus on the citizen to the implementation of local digital government and the provision of more efficient and effective local government outcomes.

Various inquiries into local government in Western Australia have urged structural reform to enable councils to more efficiently service citizens. Delivering services online through a virtually-extended enterprise has been suggested as a mechanism to achieve this required efficiency through transforming local government into local e-government (Allan, 2001 ; Stanton, 2002 ; Dollery, 2003). In this type of enterprise, the council

provides services and interaction online while maintaining a physical face, providing a choice of interaction points for its community.

In 2001, the Western Australian Local Government Association (WALGA) was successful in gaining $6.6 million funding from the federal *Networking the Nation* scheme to implement two projects designed to deliver online local government services – *Linking Councils and Communities* and *Community Access to the Information Age*. Initial funding for the *Linking Councils and Communities* project was $1.2 million with a further $4.4 million for implementation of later stages of the project. The *Community Access to the Information Age* project attracted $232, 000 funding (Australian Local Government Association (ALGA), 2001).

Western Australia is the only State in Australia that has not undertaken significant local government structural reform in recent years. However, as in other countries, policies and practices are being radically changed to cope with reduced resources (Bovaird & Davis, 1999).

Various inquiries into local government in Western Australia have urged fewer councils and local government structural reform, including initiatives such as cooperative service provision, resource sharing, joint service delivery enterprises, boundary change and amalgamations . It is suggested that such reform may help to build local government's capacity to serve its community, deliver better value in service provision through economies of scale and a wider expertise base and avoid becoming irrelevant as services are contracted out more efficiently to the private and voluntary sectors.

However, the Structural Reform Advisory Committee Report (cited in House of Representatives Standing Committee on Economics Finance and Public Administration, 2003, p.85) noted that, while there was 'scope for some rationalisation of boundaries, there is no justification for a wholesale government-driven agenda of local government amalgamations'. The Report benchmarked savings from mergers for metropolitan councils,

identifying notional annual savings of $8.5 million to $21.4 million per annum in rural areas and a further $15.8 million to $53 million in urban areas. It identified three criteria for viability, i.e. governance costs less than 10% of expenditure, debt service less than 33% of rate income and less than 50% of income derived from Federal Government Financial Assistance Grants.

Despite a growing imperative from Federal and State Government to provide online service delivery, very little research has been identified on the attitudes of senior executives in Australian local government towards providing this in the local context or management models which could facilitate this in a cost effective way.

While amalgamation has been the dominant form of structural change undertaken in Australia in the 1990s, a wide range of other structural reforms have also been implemented involving resource sharing, joint purchasing and joint service delivery (Department of Transport and Regional Services (DOTARS), 2005). Dollery and Johnson (2005) suggest that the best way towards efficiency may not be through amalgamations, rather it might be via *'public choice'* based on markets and competition. They also point out that the rate of amalgamations has slowed as these alternative structural reform avenues have been validated. It should also be noted in this context that these concepts are embedded in the cybercentrism model adapted for local e-government

Voluntary Regional Organisations of Councils (VROCs) exist throughout Australia as voluntary groupings of neighbouring councils seeking to leverage citizen benefits and organisational efficiencies through collaboration and networking. The majority consist of between five and fifteen councils, with varying size and population (Dollery, 2005). There are currently 64 VROCs around Australia (Australian Local Government Association (ALGA), 2007), a considerable expansion in numbers since 2001, when it was estimated there were 30-40 ROCs in operation (Marshall & Witherby, 2002, p.1 cited in Dollery, 2005, p.15).

Although Australian councils are constitutionally defined under State legislation, they act largely autonomously (Dollery & Johnson, 2005). Debate is ongoing on the effectiveness and efficiency of this mode of operation and amalgamation is often suggested as a method for performance improvement.

Councils have been made more accountable and transparent in their operation (Dollery, 2003), adopting NPM practices with resulting efficiencies. However, the share of taxation revenue to fund service delivery by Australian councils has decreased in both notional and real terms since 1998-99 (Department of Transport and Regional Services (DOTARS), 2006).

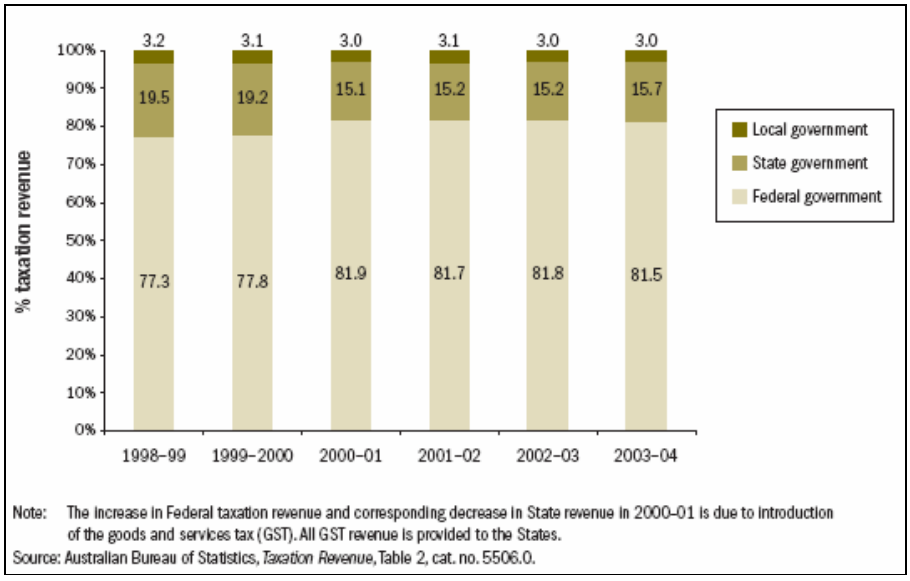


Figure 3-2 Share of taxation revenue by level of government 1998-2005/06 [source DOTARS, 2006]

The further economic efficiencies required to deliver services with this restricted revenue base are driving the debate on amalgamation as the best way to achieve economies of scale and scope. Alternatively, virtual government and the development of councils as VEEs with both a place and space orientation have been argued as a method of achieving the same economies of scale while retaining the citizen focus of smaller council (Allan, 2001; Stanton, 2002; Dollery, 2003; Stanton, 2005).

A recent survey conducted on behalf of the Western Australian Local Government Association (WALGA) assessed potential perception gaps between citizens and members of the association regarding a number of current and emerging components of local government (Western Australian Local Government Association (WALGA), 2006, p.8) including:

1. Trustworthiness of the local council.
2. Self interest in decisions.
3. Active interest in what the local council is doing.
4. Council helpfulness.
5. Only hear from council about rates and fines.
6. The need/interest to know about the local council.
7. Negative information regarding local councils.
8. Awareness of what is provided by local council to the community.
9. Preference for state government to take over local council functions.
10. Whether local government improves the quality of life in the area.

The survey found significant perception gaps, with members overestimating community support in the areas of:

- Trust.
- Council helpfulness.
- Council role in improving the quality of life.

Similarly, members significantly underestimated community belief in:

- Self interest in council decisions.
- Support for state government to take over local government functions.
- Only hear from council about rates and fines.

Interestingly, there was no difference in response between metropolitan and rural communities, except for component 8 where rural and remote correspondents indicated a higher level of awareness. The survey also addressed the level of citizen trust in the various tiers of government. Local government ranked first for 53% of the respondents, followed by state and then federal governments. This appears to support facilitating the

development of local digital government, with its citizen-centric focus, in order to increase participatory democracy.

3.1.3 Networking the Nation

Household computer use in Australia has grown exponentially since 1998.

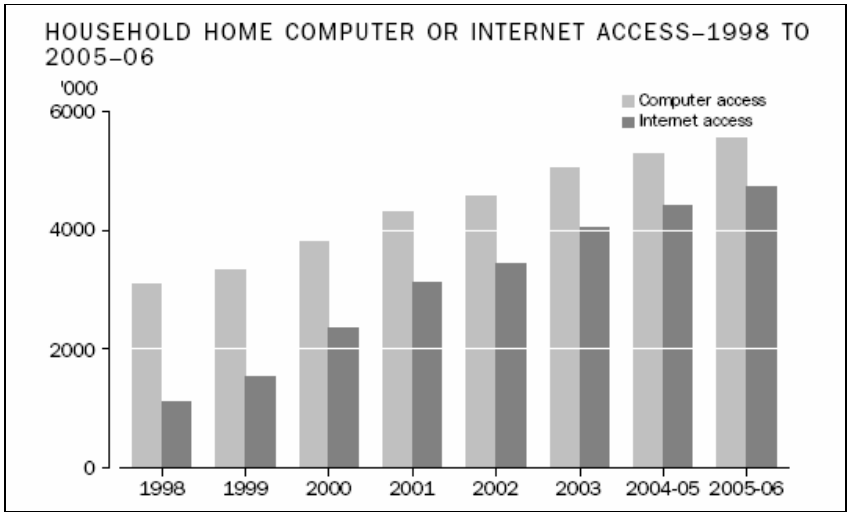


Figure 3-3 Growth in household internet access in Australia [*source* ABS, 2006]

Young people up to the age of 35-44 lead the usage figures, with the 45-year age group still showing significant usage.

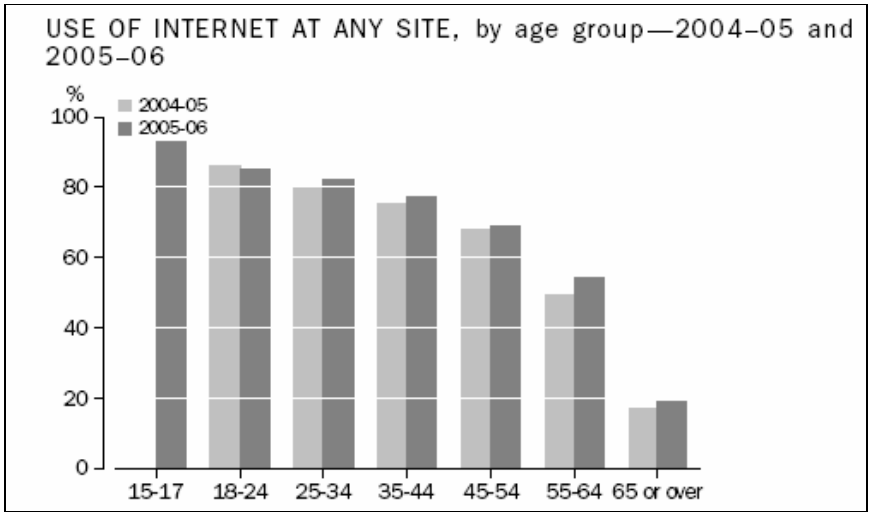


Figure 3-4 Growth in household internet use by age group 04/05-05/06 [*source* ABS, 2006]

Overall, Australia's focus on development of e-government strategies and regular assessment of their implementation has provided a supportive methodology for the implementation of e-government. Recent reports (Australian Government Information Management Office (AGIMO), 2005, 2006a) confirmed use of the internet to contact government has become mainstream in Australia. Whilst satisfaction with federal government agency internet services is high, expectation of what can be achieved is lower than with other channels. Forty-eight percent of adults used e-government in 2006 compared to 39% in 2005, 21% in 2002 and 16% in 2001 (Australian Bureau of Statistics (ABS), 2003).

Various programs funded from the federal government's 1997 Networking the Nation Program (*for example:* Western Australia's *Linking Councils and Communities* program; New South Wales' *Local-e Online Action* program; South Australia's *Electronic Services* program; Northern Territory's *NT Connect* program) have been implemented to ensure local governments develop online and connected local government services as the first step in delivering local e-government. Paradoxically, these programs appear to limit local e-governance development through providing a standard template which does not necessarily relate to the context of the local community. Sourcing of funding to continue implementation past this initial stage is also a contentious issue in most local governments.

A snapshot of electronic technology use in Australian councils (TFG International, 2005) revealed that in 2004 most councils across Australia were offering few online services; only 15% enabled many or all of their transactional services to be completed online; 59% of councils were not assisting their citizens to become connected using information technology; councils generally marketed their electronic services poorly; councils could strengthen local business by using e-commerce and that too few councils were planning to move ahead, with more support in back office processing being required.

Low investment and low levels of written strategic vision for the use of electronic technology were also identified, with 60% of councillors having little involvement in developing and maintaining that vision or monitoring its outcomes even though best use is suggested as involvement of both elected member and the CEO in this area. A lack of endorsed electronic technology plans in councils was also found, allowing IT driven investment and waste. While electronic technology was suggested as the single most important opportunity to increase productivity, 38% of councils still had no consideration of electronic technology goals and targets in their strategic plan.

In their report on development of an e-governance strategy for Victorian Local Government, Chimonyo et al. (2004) confirm there is no single practical council model of governance to address the requirements of cost-effectiveness and equity. Their report was based on a survey of e-governance practitioners, interviews with key practitioners and IT managers and an examination of the online programs being implemented by the Brisbane City Council in Queensland. Whilst the majority of respondents saw technology as becoming increasingly important, they found that there was only a superficial understanding of e-governance and that there was no strong strategic approach to its implementation. Councillors were identified as a barrier to support of initiatives associated with e-governance. Based on the findings of Marton (2003), it would therefore appear to be critical that councils implementing e-governance use management models that focus on developing successful relationships with their elected members.

3.1.4 Western Australian Councils

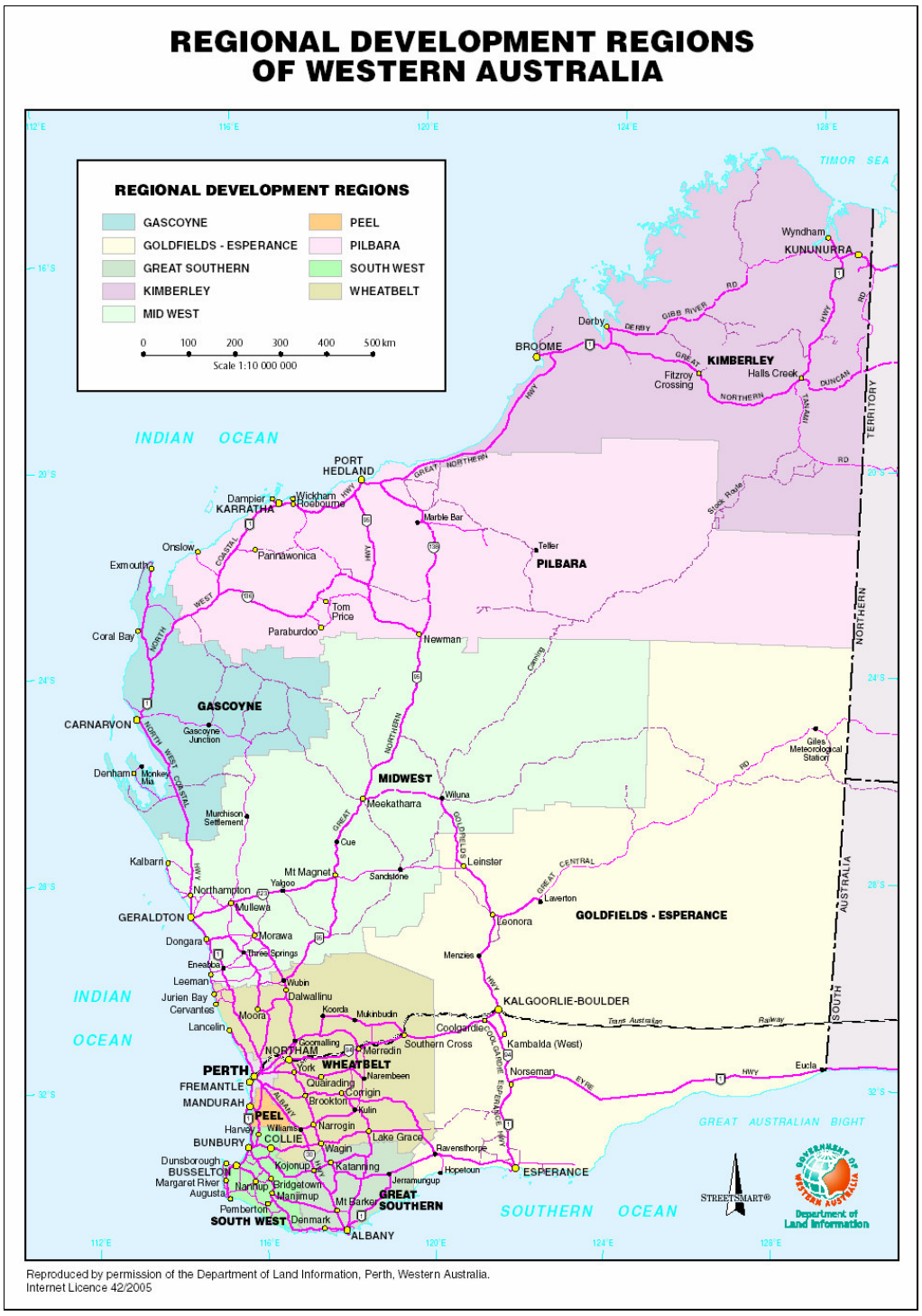


Figure 3-5 Regions of Western Australia [*source* DOTARS, 2006]

Western Australia makes up approximately one-third of Australia and 10 per cent of its population. It has 144 councils (WALGA, personal

communication, 20 February 2003; WALGA, personal communication, 05 March 2005), which is the third highest number of councils, making up 20 per cent of Australia's local governments. In 2004, Western Australian councils managed over $12 billion of road infrastructure assets, over $11 629 million of land and fixed assets and the provision of $1704 million of services.

The median age of households is 36.2 years, comparable to the Australian average of 36.6 years (Australian Bureau of Statistics (ABS), 2005).

Table 3-6 Councils and population by state [*source* DOTARS, 2006]

State	No. of bodies	Population of local governing bodies (no.)					
		Minimum	First quartile[b]	Median[c]	Third quartile[d]	Maximum	Average size
NSW	157	57	6 603	20 255	57 245	273 267	42 586
Vic.	80	2 100	15 569	38 097	102 993	201 913	61 462
Qld	157	57	1 022	3 514	12 326	938 384	24 169
WA	142	150	957	2 807	12 033	179 229	13 748
SA	74	73	2 416	8 304	19 822	152 945	20 641
Tas.	29	875	5 742	11 155	20 674	63 339	16 452
NT	64	0	297	547	1 404	72 318	3 101
All States	703	0	1 548	7 119	28 244	938 384	27 813

Notes: [a] Includes all local government bodies that received financial assistance grant funding in 2004–05.
[b] The first quartile is the population size at which 25 per cent of local governing bodies have smaller populations and 75 per cent have larger populations.
[c] The median is the population size at which 50 per cent of local governing bodies have smaller populations and 50 per cent have larger populations.
[d] The third quartile is the population size at which 75 per cent of local governing bodies have smaller populations and 25 per cent have larger populations.
Source: Derived from State Grants Commission unpublished data.

Eighty percent of Western Australian councils are classified as Regional or Rural. Figure 3-6 illustrates the population distribution of these councils.

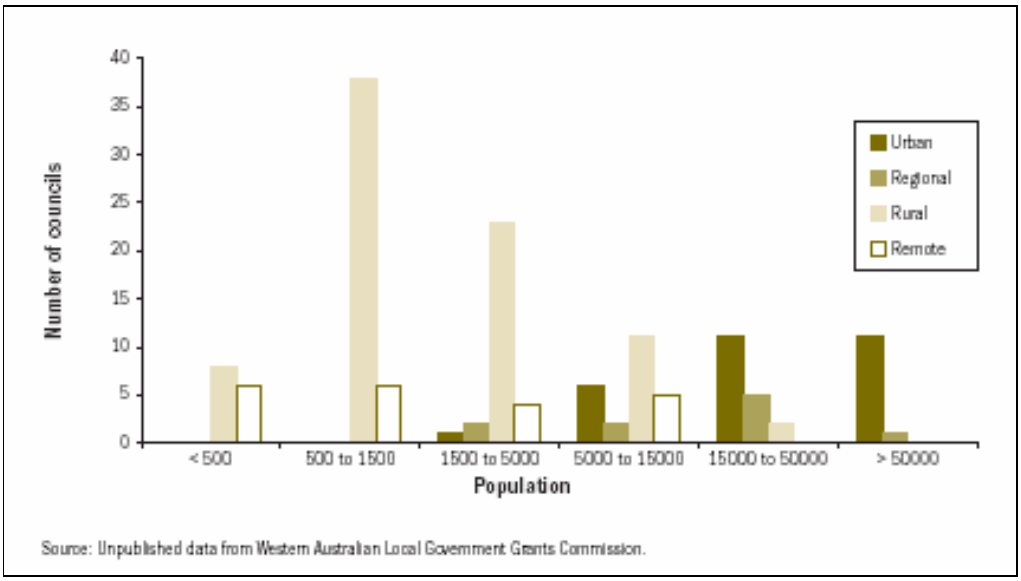


Figure 3-6 Population distribution of WA councils 2005 [source DOTARS, 2006]

Some councils are also grouped into Voluntary Regional Organisations of Councils (VROCs), established to provide better service through collaborative resource sharing and to provide consensus on problem solution for their demographically similar communities (Bellamy, 2003, cited in Local Government Advisory Board, 2006, p.60).

The percentage of Western Australian councils involved with VROCs increased significantly between 1993 and 2005.

Table 3-7 Involvement of Western Australian councils in Voluntary Regional Organisations of Councils [*source* Local Government Advisory Board, 2006]

	1995 (90 responses)	**2005** (82 responses)
Metropolitan	**Yes**	**Yes**
	16	22
	100.0%	100.0%
Country	35	51
	47.3%	77.27%
Total	**51**	**73**
	56.7%	**82.95%**

Source: Local Government Advisory Board; Survey Results: Issues Related to Local Government Structural Reform; December 2005

VROCs considered successful in Western Australia include the Western Suburbs Regional Organisation of Councils (WESROC) and the North East Wheatbelt ROC (NEWROC).

The Office of e-Government was established within the Western Australian Department of the Premier and Cabinet in February 2003 in an effort to harness the use of information and communication technologies to transform the public sector. According to its strategic plan, the mission of this office is 'to transform the operations of government, using technology as a tool, to improve internal efficiency, service delivery to citizens and community participation' (Office of e-Government, 2004).

Formulation and investigation of the research questions forming the basis of this study took place within this broad context of Australian local government, focused on local government in Western Australia. The formulation of these research questions and development of the LDGF to support the study are discussed in Chapter 4. Chapter 5 completes the presentation of the research methodology, outlining the research philosophy and detailing the research strategies utilised.

4 RESEARCH DESIGN AND DEVELOPMENT OF THE LOCAL DIGITAL GOVERNMENT FRAMEWORK

The literature relating to local e-government in Australia is sparse and either general, or concentrated to a large degree on examination of one state (for example Dunleavy & Margetts, 2000; Van Gramberg & Teicher, 2000; Shackleton, 2002; Teicher & Dow, 2002; Kiss, 2004; Riquelme & Buranasantikul, 2004; Shackleton et al., 2004, 2005; Dunleavy et al., 2006; Shackleton et al., 2006). The area is rapidly growing in significance as the internet is incorporated into the daily life of citizens and governments consider the development of participatory democracy. However, the level of adoption of appropriate management models to facilitate local e-government and local digital government in Australia, and the level of implementation of this form of government is not well known.

This chapter sets out the research design and development of the conceptual framework for investigation of TMT leader attitudes and benchmarking of the level of local digital government implementation in Western Australia.

4.1 Research Aim

Gaps were identified in the literature review relating to knowledge of the attitudes, intentions and levels of preparation for digital government in Western Australian councils and the ability to benchmark the level of that implementation due to the lack of a digital government-based website assessment tool.

Four research questions were developed to investigate these identified gaps.

RQ1 What is the conceptual framework, in terms of a model and associated management paradigm, to provide clarity and enable implementation of local digital government?

RQ2 What tools and benchmarks can be developed to meaningfully and consistently assess attitudes towards the concepts of local digital government and its implementation exhibited over time on Western Australian council websites?

RQ3 To what degree are Western Australian council leaders prepared for the implementation of local digital government within the context of the RQ1 conceptual framework and is this changing over time?

RQ4 What is the level of digital government implementation on council websites in Western Australia and is this changing over time?

4.1.1 Research Outcomes

A number of research outcomes were identified to fulfil the research aim for this study:

RO1 *Identify the attitudes of appointed and elected TMT leaders in Western Australian local governments towards developing the management dimensions required to facilitate implementation of digital government and map any change over time.*

RO2 *Develop a contextual understanding of these attitudes through in-depth discussions with TMT appointed and elected leaders in representative councils.*

RO3 *Develop a method for characterisation of levels of implementation of the digital government facets of e-government and e-governance evidenced in council websites and contextualise these.*

RO4 *Develop a benchmark of local digital government implementation within Western Australia and map any change over time.*

4.1.2 Research Assumptions

A number of assumptions have been made to facilitate investigation of the research question:

RA1 The management styles of TMT leaders are not fixed and that this movement can be illustrated on a continuum.

RA2 There is a degree of convergence in the views of TMT leaders towards implementation of digital government management models. This convergence may change and this change can be identified and mapped.

RA3 Assessment of council websites over time will reveal the level of progress in implementation of local e-government.

4.2 Research Design

4.2.1 The Research Process

The various steps of the research process for this study linked to the research questions and outcomes are diagrammatically presented in Figure 4-1. The theoretical basis and the process undertaken to deliver the required output are shown.

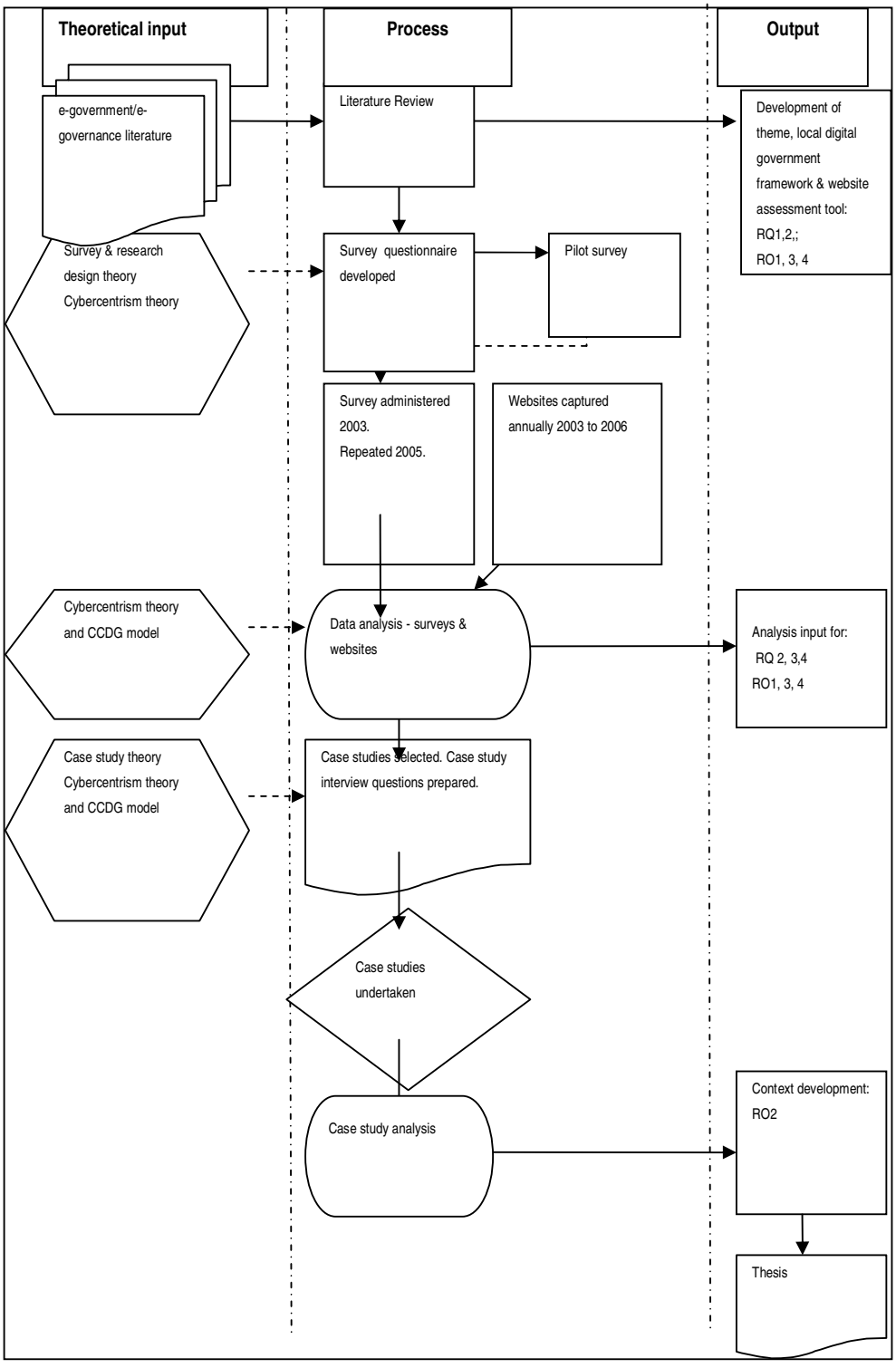


Figure 4-1 Diagrammatic overview of research design

4.3 Developing the LDGF Conceptual Framework

As discussed in Chapter 1, digital government requires councils to move forward from NPM-based management in order to develop a citizen-centric focus with its attendant features of trust, social and sociotechnical capital.

Surveys of Chief Executive Officers (CEOs), Secretaries or Heads of Departments and IT policy and planning officers (Teicher & Dow, 2002; McKeown et al., 2004) have been published previously. Whilst providing valuable information, mixing the levels of government and the use of a survey instrument adapted from a UK national level e-government assessment tool means the results have limited generalisation to assessing the progress of councils in implementing local e-government.

The development of the Local Digital Government Framework (LDGF) as the conceptual framework for this study is described in this chapter.

4.3.1 Incorporating the citizen: Citizen-Centric Digital Government

Through the use of the VEE as a transformation mechanism local government can move to becoming local e-government, providing service delivery-related choice for the customer through the maintenance of both a physical and a virtual presence for service delivery. The VEE mechanism enables realisation of the e-government vision: "… at the local level, at the point where the vast majority of services are delivered" (Department of Transport Local Government and the Regions (DTLR), 2002 p.5).

However, the next step to local digital government must incorporate an ICT-enabled citizen-centric focus. The citizen's viewpoint, including provision of channels for interaction and participation in policy and decision-making, is being strongly identified. For example, the Western Australian Office of e-Government's strategy (Office of e-Government, 2004) states clearly that by 2010 the role of government agencies is to be reshaped to include a focus on outcomes and a collaborative citizen-centric approach.

In 2007, the Western Australian Office of e-Government released its Citizen Centric Government Electronic Service Delivery Strategy (Office of e-Government, 2007) . The strategy is designed to develop agency capability to meet citizen and business electronic service delivery expectations within ten years.

This shift requires a new conceptual model where the central focus is on proactively engaging the citizen, not maintaining a passive relationship based on the organisation retaining control. This has recently been acknowledged by the Dutch government through their development of an e-Citizen Charter (Poelmans, 2007). This charter encompasses ten requirements:

1. Choice of channel
2. Transparent public sector
3. Overview of rights and duties
4. Personalized information
5. Convenient services
6. Comprehensive procedures
7. Trust and reliability
8. Considerate administration
9. Accountability and benchmarking
10. Involvement and empowerment.

The online aspects of e-government such as process requirements and service delivery have receded from being the sole function of the government web presence. Development of citizen interaction and relationships through online means is taking a higher profile.

The implementation of online government has previously been measured only in terms of e-government tangibles such as service delivery, not intangibles such as participation, collaboration and consultation (Bishop & Anderson, 2004). The new conceptual model for digital government must incorporate both e-government and e-governance.

The provision of social context, facilitated by a different management focus, is the driver to develop e-governance-based online citizen engagement. Recognition of the need to provide this context, if governments at all levels are to achieve their goals, is made explicit in e-government strategies worldwide. Goals such as building user trust and confidence and enhancing closer citizen engagement (National Office of the Information Economy (NOIE), 2002) enabling people to participate in government through inclusive policy development processes (Government of New Zealand, 2001) and citizen engagement and outreach (Government Online Advisory Panel, 2002) are commonly expressed in these strategies.

The intention to interact with citizens in providing digital government is exemplified in the four key objectives of the Western Australian Citizenship Strategy, 2004-2009 (Government of Western Australia, 2004):

1. Knowledge and Understanding.
2. Inclusion.
3. Participation.
4. Democratic Governance.

These objectives are mirrored in the Principles for Online Engagement (Australian Government Information Management Office (AGIMO), 2007) of:

- *Commitment*
- *Community focus*
- *Community capability and inclusiveness*
- *Mutual respect, confidence and trust*
- *Responsibility and Accountability*
- *Security and privacy*
- *Evaluation and efficiency*

David (2004) suggests that in relation to providing a cyber-infrastructure for collaboration in the e-Science space, it is the so-called *'socio-institutional elements'* to support this collaboration which are the most difficult to

engineer. He uses the term '*community-centric interactions'* to describe collaborations supported by digital networks, bringing communities together for: " … synchronous or asynchronous information exchanges" (David, 2004, p.5). Such collaborations also include real-time interactions between participants to enhance decision-making. This type of interaction forms the basis of Citizen-Centric Digital Government (CCDG), a new conceptual model of government for the digital era (adapted from Stanton, 2005) focused on participatory democracy and the proactive inclusion of the citizen. This new model is based on principles of knowledge sharing and trust, perceived as vital to the development of virtual relationships (Gordon, 2000; Marshall et al., 2001; Resnick, 2002).

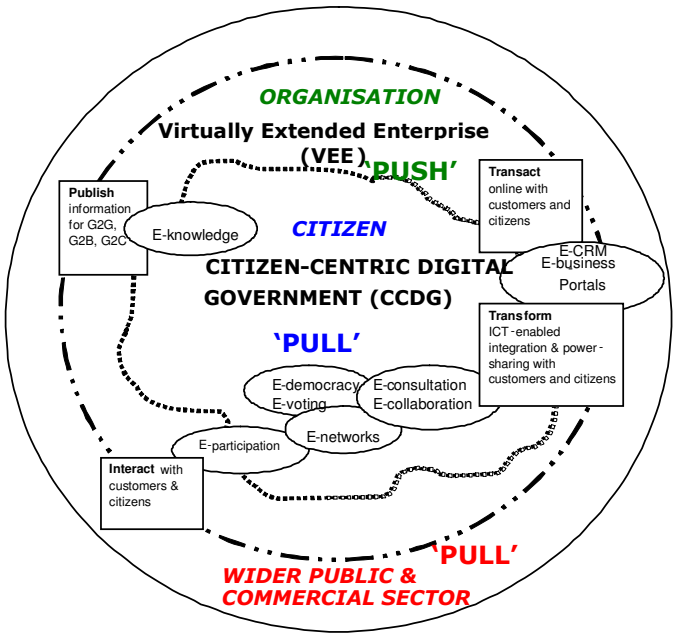


Figure 4-2 Citizen-Centric Digital Government: An online civic engagement focus [*adapted from Stanton, 2005]*

The CCDG model represents the various interactions between the government organisation operating in e-government mode in a virtual environment with a *'push'* focus, the citizen, with a proactive participatory *'pull'* focus and the customer, represented by the *'pull'* focus of the wider public and commercial sector.

To provide the information-based deliberative element of democracy, Coleman and Gotze (2001) suggest an effective use of online engagement lies in opening channels to connect elected representatives to those often disenfranchised in policy debate. The CCDG form of government encompasses the design and development of different website functional areas to enable full online civic engagement. Such interaction spaces are termed '*e-spaces'* in the CCDG model. This e-space concept entails no assumptions concerning the sequence of implementation of the various spaces and their relative degree of development as this would constrain the outcome. Rather it is based on a non-linear view, with e-spaces growing or shrinking according to citizen interaction goals and expectations.

The CCDG model of government is dynamic, with the e-spaces (such as publish, e-consultation and e-participation) co-existing at different stages of development. It proposes that the organisation-focused VEE moves out from the central focus of previous staged models to take an intermediary position between its citizens and the wider public and commercial sector customers of government.

In contrast to virtual government, the boundaries between the participants in citizen-centric government open to allow the necessary interactions. This is a function of the participatory - as opposed to controlling - nature of this form of government and allows the creation of effective e-spaces to enable interaction between the various layers of the model.

In contrast to government operating as a business enterprise, the activities undertaken in a citizen-centric modality, including information exchange and the use of interactive applications for decision-making, provide the best opportunity to realise the goals of collaboration with citizens through virtual channels.

In implementing e-governance, government must be flexible, outwardly focused on the citizen, and actively interacting in the virtual spaces chosen

by the citizen. The CCDG model therefore guides governments in moving towards developing these various e-spaces. The essence of this new model of government interaction is the recognition that collaboration, information-sharing and consultation are required to achieve citizen-based outcomes. Government transforms to the CCDG and digital government when it moves away from the organization-centred focus of delivering online processes and services towards an interactive citizen-centric model of citizen collaboration to achieve citizen-focused outcomes.

The two facets of digital government operation in the CCDG model are not mutually exclusive. What is designed in the e-space is based on what citizens require and given the wide variation in geographic and demographic categorisation of each level of government, this should not be remarkable. However, the trigger for developing the e-governance spaces can perhaps be seen as a change to a practical, rather than rhetorical focus. This change leads to recognition of the need to develop past the boundaries of the VEE to enable interaction with citizens in decision-making, policy-making and ultimately the democratic process.

Development as a VEE lays the foundation for development as a CCDG. However, implementation of these modalities should not be viewed as sequential, as their virtual components may develop at different rates. For example, the development of e-governance components such as e-consultation and e-collaboration need not rely on the sequential implementation of all e-government stages from ‘Publish’ to ‘Transform’ before it is commenced. Levels of government with little demand from citizens for transactional capacity (such as local government) may on the other hand have a well-developed e-consultation presence, but little development of e-democracy. The driver or trigger is the “*pull"* from citizens to use the webspace for more focused interaction and participation, which forces the development of the VEE towards the CCDG mode.

The transformative driver which moves government from the VEE to the CCDG is citizen focus. Using the CCDG model as the basis, assessment of progress in implementation of local e-government can be based not only on e-government outputs, but also on e-governance outcomes evident in the e-spaces on the government's website.

4.3.2 A management paradigm for local digital government

Local government accountability, coupled with the introduction of business practices and performance measures developed in the private sector, is effecting a fundamental change in the way services are delivered to customers. Hansen (2001) characterises this change along market and management-oriented dimensions. The market dimension is exemplified through increasing privatisation and contracting out. The management-oriented dimensions are exemplified by moves toward decentralisation of decision-making competence and responsibility, efficiency monitoring, the introduction of service and quality management systems such as Quality Assurance and benchmarking and joint forums of strategic leadership. Employee empowerment is a feature of this dimension.

Local government is seeking to facilitate the acquisition of virtual skills to enable them to be transformed: " ... from a structure built of jobs into a field of work that needs to be done" (Stough et al., 2000, p.372). Development of such flexibility and agility may maximise cost-effective service delivery to local government communities and to the region as a whole. The cybercentric management paradigm is proposed as the enabler of this transformation, as local governments deal with new technical and organisational infrastructures and the demands to create value for their technologically adept citizens. Enterprises are moving from the workplace towards the workspace orientation and local government is no exception.

With this shift comes a change in business models towards collaborative agreements and alliances and the development of virtual knowledge relationships. Gordon's cybercentric model for management of knowledge

in virtual environments (Gordon, 2000; 2001) was introduced in Chapter 1 and the seven dimensions of the model outlined:

1. Management
2. Corporate Structure
3. Company Goals
4. Market Position
5. Competitiveness
6. Employment
7. Strategic Vision

The cybercentric management concept was used as the basis for developing the management paradigm to support the CCDG model of digital government. It is based on knowledge-sharing, skill development and a customer focus and therefore provides an appropriate basis for enabling the progression from NPM to digital government and a citizen-centric focus. Cybercentric management moves NPM forward to the digital era. Whilst the NPM aspects of performance, accountability and transparency are present, the focus shifts to the citizen and the relationship management and collaboration necessary for digital government. The virtually-extended enterprise is one of the key features of the model. Importantly in a government environment, the need for leadership at both political and administrative levels and for flexibility in all dimensions to ensure services are provided in the most effective and efficient manner is also identified.

The seven dimensions of the cybercentric management paradigm and their key components adapted for local digital government in the context of the relevant literature (adapted from Stanton, 2002) are shown below.

Table 4-1 The cybercentric management dimensions adapted for local digital government [*adapted from* Stanton (2002)]

Cybercentric model dimension	Features of Geocentric Management	Features of Cybercentric Management (adapted for local digital government)
1.Management	Information Technology (IT) and Management Information Systems (MIS) segregated from the rest of the business.	IT and MIS brought into key decision making.[h]
		Single points of entry to multiple agencies allowing the opportunity to interact seamlessly[a]
		Integration of e-government as an enabler into broader policy and service delivery goals[b]
2.Corporate Structure	Broad, hierarchical structure with vertical command	Flattening of the organisation with horizontal authority
		Accountability, monitoring and evaluation[b]
		Strong performance management focus[c]
3.Company Goals*	Goals/objectives are known and not questioned by management	Goals/objectives are elastic and reinvented as the market evolves and changes.
		Creating innovative solutions for the citizens and businesses served[a]
		More structured knowledge management strategies to facilitate greater information flows, better knowledge of the customer and a greater sense of organisational identity[b]
		Reengineering business processes to change the way the organisation works[b]
		Importance of focus on implementation as well as strategies[b]
4.Market Position	Defined by competition and view of market structure as defined by physical presence.	Virtually-extended company understands the agility of e-commerce[c] E-commerce as a function of local e-government [e]
		Importance of customer relationship management[a] and transformation to citizen relationship management [d]
		Customer focus providing access, choice, citizen engagement and privacy[b,g]

Cybercentric model dimension	Features of Geocentric Management	Features of Cybercentric Management (adapted for local digital government)
		Sustained customer focus and development of improved services, not just improved access[c]
5.Competitiveness	The company fights for market share, and bitterly defends its knowledge.	The council looks for opportunities to enjoin other companies in mutually beneficial R&D ventures [f, g]
		Inter-agency collaboration in customer-focused groupings . information and communications technology funding seen as an investment[b]
		Councils work together and with public sector agencies to deliver e-government[c]
6.Employment	Lifetime employment	Contract workers and consultancy
		Skills required by managers are not solely technical [or administrative] but also embrace facility in participating in the information and communications technology decision-making process[b]
		Information and communications technology skills and knowledge are essential and should be accessed from more than one person or employment source to build capacity required[c]
7.Strategic Vision	Vision defines strategies according to a limited choice of options	Cyber vision offers a wide range of strategic options limited only by the ability to alter perceptions, intervene, or destabilise existing realities
		Vision and implementation. Striking the right balance between political leadership & administrative simplicity[a]
		Vision/political will including leadership and commitment at both political and administrative levels[b]
		Practical and realistic vision and political will with a change management emphasis[c]

* renamed to Corporate Goals for local government use

[a] Accenture (2001)
[b] OECD (2003a)
[c] Audit Commission (2002)
[d] Larsen and Milakovich (2005)
[e] Shackleton, Fisher & Dawson (2005)
[f] Dollery (2005)
[g] Ho (2002)
[h] TFG International (2004a,b)

The application of the cybercentric dimensions as management enablers of local digital government is further supported by the inclusion of leadership characteristics and guiding principles for successful e-government implementation and relationship development derived from the literature as indicated in Table 4-1.

Government is facing the need to develop citizen-interaction in a virtual environment. Cybercentric management is the new paradigm for the local digital government environment. It can be seen as the next step towards managing digital interaction with a citizen focus, based in part on the changing product-value proposition suggested by Gordon (2001):

> "… from mass marketing to mass customization; from reactive marketing communication to user-interface; from the goals of opening a new corporate site, to, instead, establishing and managing a virtual community as a commercial knowledge enterprise" (p.678).

The bureaucratic paradigm is not appropriate for achieving the digital era outcomes of e-government *and* e-governance required in local government today. Cybercentric management enables flexibility and the development of capacity to work collaboratively in the virtual environment and produce significant cost-effective citizen-focused outcomes.

Delivering local digital government will require a strategic vision focusing on both service delivery and citizen interaction to maximise citizen benefit. It also requires flexibility and a willingness to collaborate. Cybercentric management forms part of the Local Digital Government Framework (LDGF) which can be used to provide an effective alternative to amalgamation, while delivering enhanced outcomes for the citizen.

TMT leader attitudes to providing a digital government environment can be investigated using the cybercentrism paradigm dimensions. Attitudinal shifts can then be identified by mapping these attitudes onto a cybercentrism continuum (Figure 4-3).

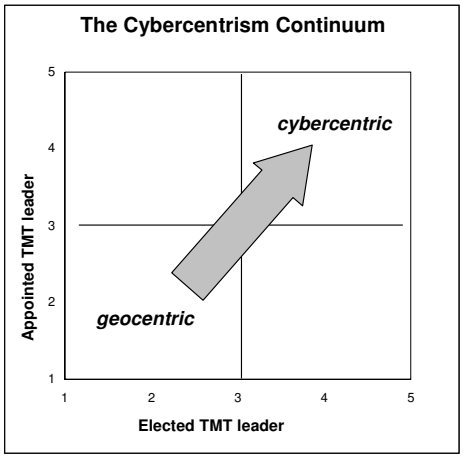


Figure 4-3 The Cybercentrism Continuum [*source* Stanton, 2002]

The cybercentrism continuum is defined within four quadrants. Thus, for example, the appointed leader of a council may have a cybercentric perspective but the elected leader for that council may have a geocentric perspective. The council would therefore be positioned in the upper left quadrant. Similarly, the elected leader may have a cybercentric perspective while the appointed leader is geocentric. In this case the authority will be positioned in the lower right quadrant. Similarly, both leaders may be cybercentric or geocentric. Those councils positioned in the upper right quadrant, towards the cybercentric end of the continuum, should be better prepared in terms of their management paradigm to implement local digital government.

4.4 The Local Digital Government e-Space Assessment Tool

If the implementation of digital government is progressing in Western Australia then this will be evident in a change in content of local government websites to incorporate both e-government and e-governance components, as the LDGF transforms local e-government to local digital government. It has been proposed that development in these components may be concurrent rather than linear (Shackleton, 2002; Stanton, 2005). The term *e-space* is used therefore to refer to different levels of e-government and e-governance components which may exist at the same

time on the local government website. Within the context of the LDGF, the level of the components of each facet of digital government existing concurrently on the website is an indication of the degree of implementation of local digital government.

Whilst there has been appraisal of progress in implementing local e-government using local government websites in Victoria (Shackleton, 2002) this has been undertaken with a tool developed from a purely e-government perspective. No published in-depth study of the level of local digital government implementation, utilising an assessment tool incorporating the components of both e-government and e-governance and the concept of the e-space has been undertaken in Western Australia or elsewhere.

In recent years, many models and tools to benchmark progress in implementing online government have been proposed by consultants, governments and other organisations (*for example* Accenture; Cap Gemini; Ernst & Young; the Bertelsmann Foundation; the Gartner Group; the Cyberspace Policy Group's Website Attribute Evaluation System (WAES) and The Office of the e-Envoy UK through ID&eA). These models have an e-commerce genesis and present a concept of online government as a multi-staged one with linear, sequential implementation of these stages.

The criteria used for assessments linked to these models were often not made explicit, or if they are appear to be subjective, constantly changing and often superficially focused on the number of services available or on subjective assessments of depth of the services offered, making benchmarking of results over time impossible. Janssen et al. (2004) analysed and categorised eighteen benchmarking studies in their study funded by the Flemish government. Although all purported to evaluate e-government, the outcomes were found to fall into four different categories depending on the focus and scope of the study. Such variance in

benchmarking results can easily lead to inappropriate and ineffective policy decisions.

It seems clear that the multiplicity of benchmarking models reflects a desire to quantify return on investment (ROI). However an increasingly confused understanding of the nature of online government and its components of e-government and e-governance is becoming apparent, inhibiting accurate assessment of progress. This confusion is accompanied by an assumption that the implementation of online government is based on New Public Management (NPM) principles, proceeds in an orderly and linear way and has a single focus.

However, it has been argued (Stanton, 2005) that digital government should be seen as two complementary areas, i.e. organisation-centric e-government and citizen-centric e-governance, with ICT-enabled use of the web space (the '*e-space*') as the zone of interaction. A new digital government assessment tool is required to move away from NPM-related tools which cannot reveal the extent of e-space interaction between government and its citizens and customers or fully describe the shape of these spaces. Such a tool must incorporate assessment of the online processes yielding e-government outputs and the e-spaces delivering e-governance outcomes.

Existing tools either focus on compliance (e.g. the Website Attributes Evaluation System (Cyber.state.org, 2001)), or on e-government rather than digital government (including Shackleton, 2002; West, 2003; McKeown et al., 2004; Riquelme & Buranasantikul, 2004). Although providing valuable information, these tools have limited applicability for investigation of CCDG-related phenomena. They are also used from a benefits/ROI point of view to predict maturity (National Office of the Information Economy (NOIE), 2003), which is a linear phenomenon and not applicable to an examination of areas such as e-spaces which may develop concurrently.

4.4.1 The e-Space Assessment Tool (e-SAT)

This tool has been designed to illustrate the degree of development of digital government within the context of the LDGF, rather than the extent to which citizens use or are satisfied with e-government. Whilst accessibility and usability are important issues in the adoption of e-government by citizens, they are not therefore assessed by the e-Space Assessment Tool (e-SAT).

Using the literature and current government website classification models, the primary and secondary components of the facets of digital government were identified (Table 4-2) to form the basis of the e-SAT.

Table 4-2 The components of the local digital government space [*adapted from* Stanton (2005)]

Digital government facet	***e-Space***	***Primary e-components***	***Secondary e-components***
e-Government Online process implementation Organisation-centric "Push" ***Conceptual Model:*** Government focused VEE	**Publish** Providing Information – *"data in context"* [1], [3], [4], [7],	Static and strategic information available for download [4], [11].[12]	Information documents Strategic documents
	Interact Two-way communication *with* the citizen. Citizen feedback [4], [5] ,[12]	Common entry points. Access to information to do business with government	Downloadable forms / documents Site search email to officers Employment Tenders Information portal
	Transact Citizens can conduct and complete transactions online[1 , [4] ,[11],[12]	Access to transactions online or in person Seeking feedback	Payment online email to officers Ability to complete transaction online
	Transform Seamless/integrated virtual	Submission tracking End-to-end process	e-CzRM/e-CRM Central government

Digital government facet	*e-Space*	*Primary e-components*	*Secondary e-components*
	government [1], [3], [4], [11],[12]	integration E-business opportunities	portals for all services & links] Integrated supply chain Business Portals
e-Governance Online transformation to "*representative e-government*" [6] Citizen-centric / "Pull" [10] ***Conceptual Model:*** Governance-focused CCDG	**E-consultation and collaboration** (including e-policy) [8] Seeking citizen feedback to contribute to initial stages of policy-making and strategic planning. [6], [7], [10],[12]	Mechanism available to provide formal feedback on projects and policies At least one defined method to undertake specific consultation exercises [6], [7], [8], [9]	Consultation module "Have your say" Public message board [15] Web-casting public meetings [15] Online surveys / questionnaires [14], [15] Email to officers Real-time forums
	e-Participation [2] *" … the use of ICT to open new channels for participation in the democratic process between elections"* [cited in 9] Associating information with purpose and experience to develop e-knowledge. [4], [6] [10],[12]	Mechanism available for online sharing of information and ideas [2], [7], [8],[12]	eMail Privacy statement Web discussion spaces [15] (eg Topic portal, chat & citizen blogs [15]) e-Newsletter/e-News (incl. council blogs [15]) Online polls
	e- Networks " *… the strategic use of ICTs to better implement established public policy goals and programs through direct and diverse stakeholder involvement online.*" [6] Networked societal guidance [8] Online Communities of Practice [6], [7]	Mechanism for full online civic engagement including online public deliberation and debate. Mechanism available for those with relevant expertise to participate in projects with government officers (eg voluntary sector-local government	Privacy statement Web discussion spaces (eg Topic portal, chat & citizen blogs [15]) e-Newsletter/e-News (incl. council blogs [15]) eMail Online Communities of Practice e-Petitions [15] Online polls

Digital government facet	*e-Space*	*Primary e-components*	*Secondary e-components*
		partnerships)	
	e-Democracy Transformative democracy *" … the use of ICTs in support of citizen-centred democratic processes".*[2]. [9],[13]	Mechanism for full online democractic engagement [2], [7],[8]	e-Voting At least one binding online polling/survey method

[***Sources:*** [1]OECD (2001a); [2]Kearns (2002); [3]Windley (2002); [4]NAO (2002); [5]IDeA (2002); [6]Clift (2003b); [7]Marche & McNiven (2003); [8]Riley (2003); [9]Riley & Riley (2003); [10]Smith et al. (2005); [11]Zhou (2004); **[12]** AOEMA (nd); [13] AGIMO (2007) [14] Bailey (2007); [15] O'Malley, Higgins et al. (2007)]

The continued and increasing importance and validity of the secondary components of the framework is supported in current literature (Australian Government Information Management Office (AGIMO), 2007; Bailey, 2007; O'Malley et al., 2007). Some secondary e-components are present in different e-spaces as they are integral to more than one e- space and therefore required to fully map each e-space. Where common elements exist between e-spaces, the space is defined if one or more of the unique elements associated with that space is also present. For example, the e-networks space is defined as a separate space from the e-participation space if one or more of online communities of practice, e-petitions, topic portals or online polls is present. Thus the foundation for an e-space may exist, but the space is not considered active until its unique functionality is implemented.

Definition of the e-spaces provides the flexibility required for the degree of development of digital government to be identified. The e-participation space, for example, can be defined in terms of the presence or absence of one primary component (a mechanism for online sharing of information and ideas) and six secondary components (e-mail, chat, privacy statements, web discussion spaces, e-news and online surveys or polls). Longitudinal evaluation of these components produces a picture of the

development of this e-space and a more sensitive instrument for analysing progress (either negative or positive) in developing local e-government.

The CCDG model refocuses e-government on the citizen. The strength of the e-SAT lies in its focus on identifying multiple levels of concurrent development of various e-spaces to identify digital government, rather than a list of items to identify achievement of a linear maturity stage. The technique thus provides an assessment of outcomes in context rather than outputs without context.

4.5 The Local Digital Government Framework

Figure 4-4 diagrams the LDGF components. The LDGF provides an ICT-enabled framework to enable development of the e-governance facet of local digital government while maintaining and developing e-government. The e-SAT is used as a benchmarking tool to assess the development of the facets of local digital government enabled by the LDGF.

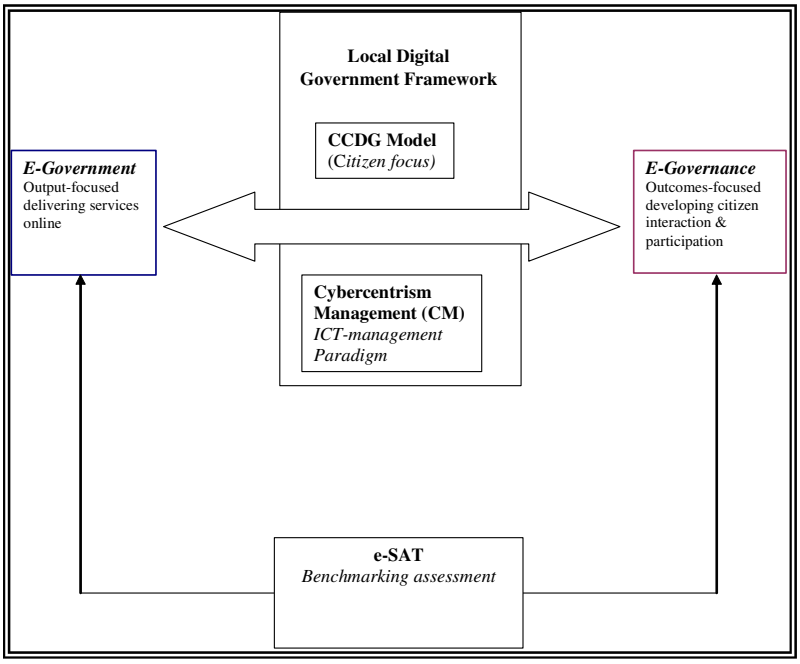


Figure 4-4 Diagrammatic representation of the Local Digital Government Framework (LDGF)

The LDGF incorporates the conceptual Citizen-Centric Digital Government (CCDG) model and associated Cybercentrism Management (CM) paradigm to provide the basis for investigation of the research questions and previously identified perceived gaps in the literature. The LDGF extends previously existing e-government-focused frameworks to enable a shift from the organisational focus of e-government towards incorporating the citizen focus of e-governance and therefore the implementation of local digital government. The e-SAT can then be used within the context of the LDGF to identify the level of implementation of local digital government.

The CCDG model uses the e-government/digital governance literature to extend existing online government models. It emphasises the citizen viewpoint and the concepts of e-governance in addition to the organisational focus and concepts of e-government. This model provides the conceptual basis for assessment of the degree of e-governance on Western Australian council websites. Although tested on local government only, the model is applicable to all levels of government, therefore enabling development of citizen-centric electronic service delivery at local and state level (Office of e-Government, 2007) and e-democracy at the federal level (Australian Government Information Management Office (AGIMO), 2007).

The CM provides the management paradigm for a digital-era local government environment and the context for examination of elected and appointed leader attitudes towards provision of this environment. This paradigm, supported by the literature, extends previous NPM e-government based frameworks to a cybercentrism-based LDGF incorporating e-government and e-governance facets. The cybercentric components of this framework bring the importance of knowledge sharing and the development of online and collaborative relationships to the forefront, laying the operational foundation for e-governance and the development of a citizen-centric online relationship.

5 RESEARCH METHODOLOGY

Following an iterative literature review process, investigation of the research questions was undertaken from two perspectives:

1. Quantitative with an underlying positivist epistemology. This method is based on two research instruments:
   1.1 A self-administered survey instrument to provide opinion-based data.
   1.2 A web assessment tool to provide factual data.
   Data collection using these instruments occurred at several points in time, to provide longitudinal data across the sample.

2. Qualitative with an underlying approach grounded in positivist epistemology and an ontological basis of realism (Hirschheim, 1985; Chua, 1986; Yin, 1994). This method is based on case study interviews of a representative subset of the original population. Explanation of the results utilises the research synthesis aggregative technique of meta-ethnography to provide confirmatory data for the results of the quantitative investigation along with the development of meaning (Weed, 2005).

Deductive quantitative evaluation with inductive qualitative evaluation based on the same underlying epistemology were combined in this study to enable context development (Guba, 1986; Clarke, 1999). Falconer and Mackay (1999) suggest that this combination of research methods is well supported within a positivist paradigm. Langley (1999), in a discussion of the linkage between data and theory in process research, suggests the use of both inductive and deductive approaches, either iteratively or simultaneously.

Whilst the amended positivist paradigm proposed by Guba and Lincoln (1994) has been used as the basis of this strategy, Weick (1989) concluded that there is always an uncodifiable step between strategy and

theory that relies on the imagination and insight of the researcher. Ethnography has been used to discover meaning, followed by the use of both positivist and interpretivist paradigms to test and generalise this meaning and develop context.

As the researcher is a practitioner in the field, interpretation using story (Remenyi, 2005) was introduced as a component of this evaluation to provide context and explain relevant interconnecting issues and relationships.

5.1.1 Data Triangulation and Validity

Three exploratory research strategies to provide results from multiple sources were employed to confirm the internal validity of the research conclusions (Barnes & Vidgen, 2006). Fielding and Schreier (2001, cited in Barnes and Vidgen, 2006, p.70) propose three models of triangulation:

1. **Validity**
   As a validation of results obtained using different methods.

2. **Complementarity**
   To obtain a broader and more complete picture of the research context.

3. **Trigonometrical**
   Using a combination of methods that represented the research phenomenon being found by alternative measures.

This research study is designed to use the validity and complementarity models of data triangulation to answer the research question. Complementarity is supplied through the case study and website assessment strategies, building on the data obtained from the survey strategy.

External validity

To ensure external validity, multiple convergent assessment instruments utilised the entire population of Western Australian councils and their associated websites. Multiple case studies were used rather than a single case study however this was restricted to a representative number selected objectively from the survey analysis in order to provide maximum validity for subsequent generalisation.

Internal Validity

An extensive literature review formed the basis of theory generation and the development of the model and framework supporting the study. The longitudinal basis of the survey and website assessment strategies also provided an opportunity for pattern-matching of predicted requirements for the implementation of local e-government using the seven constructs of the cybercentrism continuum plus the construct of trust, e-space development and interview responses.

Reliability

Boudreau et al. (2001) recommend the assessment of instrument reliability in IS research and detail five generally recognised techniques for this. Three of these methods are applied to the different research strategies.

The test-retest reliability method was used for the survey instrument. This was administered twice to provide longitudinal evaluation and the opportunity to identify any anomalies in data which may have arisen.

Structured case study interviews used internal consistency to assess reliability. These were conducted using the same set of questions as a basis for each interview to enable comparison of response and ensure strong linkage to the digital government facets under investigation.

Inter-rater reliability of data entry (Bowers & Courtright, 1984; Miles & Huberman, 1994) using the e-Space Assessment Tool (e-SAT) developed for this study was determined through trials with three operators. One of

these operators was the researcher, while the other two operators were of different ages and had different levels of knowledge of the research area. A guide was developed for use of the tool (Appendix Seven) and a one hour training session using this guide was undertaken. Each operator then coded ten websites using the e-SAT.

Reliability can be calculated using the following formula (Miles & Huberman, 1994):

$$\text{Reliability} = \frac{\text{Number of agreements}}{\text{Total number of agreements} + \text{disagreements}}$$

Miles and Huberman suggest a 70% reliability ranking is likely initially, improving with each iteration. Testing of the e-SAT produced an initial reliability ranking of 86.6% after the operator had received training and the operational manual. The comment was made that the tool was user friendly and explicit.

5.2 Information Collection

Three research strategies were used in this project to ensure contextual depth:

1. Longitudinal survey in 2003 and 2005.
2. Longitudinal website assessment in 2003, 2005 and 2007.
3. Case study interviews.

The research methodology for each of these strategies is discussed separately in sections 5.3, 5.4 and 5.5. The components of the research strategies are summarised in Table 5-1.

Table 5-1 Information collection methods

Type of information	Sample selection method	Justification of sample size	Data/Information generated
1. Survey of TMT appointed and elected leaders	All WA councils in 2003 and 2005 (WALGA list)	Comprehensive analysis of total population	Overall assessment of WA council leader attitudes towards concepts of local digital government and the degree of preparation for this type of government. Assessment of degree of congruence between attitudes of elected and appointed representatives within and between councils.
2. Website e-space assessment	All WA council websites every six months from February 2003	Comprehensive analysis	Measure of implementation of survey intentions Provide level of implementation of WA local digital government for councils responding in both survey years.
3.Case studies research	Proportional mix of regional and metropolitan councils selected from representative sample derived from survey analysis	Most consistent unit of survey response, i.e. both TMT leaders for the council responded in 2003 and 2005 ('Pairs of pairs").	Provide interpretive context development for TMT leaders' attitudes, drivers and inhibitors in implementing local digital government. Development of cross-case conclusions.

5.2.1 Australian Classification of Local Governments

The Australian Classification of Local Governments (ACLG) Locator System was developed in 1994 to categorise councils based on population, population density and the proportion of the population classified as urban for the council (Department of Transport and Regional Services (DOTARS), 2005). Eighty percent of councils in Western Australia are in the regional and rural category. A three-step method is involved in generating the council profile using the ACLG. These steps and the resultant classification categories are shown in Table 5-2.

Table 5-2 ACLG codes and associated definitions [*source* DOTARS, 2006]

Step 1	Step 2	Step 3	Identifiers	Category
URBAN (U)	Capital City (CC)			UCC
Population more than 20 000	Metropolitan Developed (D) Part of an urban centre of more than 1 000 000 or population density more than 600/sq km	Small (S) Medium (M) Large (L) Very Large (V)	up to 30 000 30 001-70 000 70 001-120 000 > 120 000	UDS UDM UDL UDV
OR				
Population density more than 30 persons per sq km	Regional Towns/City (R) Part of an urban centre with population less than 1 000 000 and predominantly urban in nature	Small (S) Medium (M) Large (L) Very Large (V)	up to 30 000 30 001-70 000 70 001-120 000 > 120 000	URS URM URL URV
OR				
90 per cent or more of LGA population is urban	Fringe (F) A developing LGA on the margin of a developed or regional urban centre	Small (S) Medium (M) Large (L) Very Large (V)	up to 30 000 30 001-70 000 70 001-120 000 > 120 000	UFS UFM UFL UFV
RURAL (R)				
An LGA with population less than 20 000	Significant Growth (SG) Average annual population growth more than 3 per cent,	Not applicable		RSG

Step 1	Step 2	Step 3	Identifiers	Category
	population more than 5 000 and not remote			
AND				
Population density less than 30 persons per sq km	Agricultural (A)	Small (S) Medium (M) Large (L) Very Large (V)	up to 2 000 2 001-5 000 5 001-10 000 10 001-20 000	RAS RAM RAL RAV
AND				
Less than 90 per cent of LGA population is urban	Remote (T)	Extra Small (X) Small (S) Medium (M) Large (L)	up to 400 401-1 000 1 001-3 000 3 001-20 000	RTX RTS RTM RTL

The ACLG code assigned to each council was used in the research strategy data analysis sections for geographical comparison of outcomes.

5.3 Survey Strategy

A survey was chosen as one of the research strategies to eliminate possible practitioner bias and to provide an objective benchmark for the research. Using a survey as the initial inquiry instrument establishes a benchmark without the bias which may be introduced in an interview.

Establishment of this benchmark was also important for testing whether the management styles of TMT leaders are not fixed, within the framework of the cybercentric management model, but rather are moving in either a positive or negative direction on the continuum between geocentrism and cybercentrism as they respond to or retreat from the demands of digital-era governance.

5.3.1 Development and Testing of Survey Instrument

To ensure appropriate content validity, reliability and construct validity (Boudreau et al., 2001), the survey questions were derived from the cybercentrism dimensions adapted for local government (Chapter 4). In this context, the areas of current and future strategies for the use of e-commerce in local government and perceptions of the level of need to develop customer focused relationships were explored.

Each cybercentrism dimension was represented by more than one statement in the survey. Questions were related to cybercentrism dimensions to enable the relative strength of each dimension to be assessed.

Pilot Study

The survey instrument was pre-tested in a pilot study of the six councils making up the voluntary regional organisation of councils known as WESROC in Western Australia (Stanton, 2002).

A pilot study can be defined as: " … an abbreviated version of a research project in which the researcher practices or tests the procedures to be used in the subsequent full-scale project" (Dane, 1990, p.336). Following Alreck and Settle (1995) the pilot study for the survey strategy utilised a brief, preliminary survey with a convenience sample of a small Western Australian VROC.

Twenty five pilot survey questions were developed to investigate the attitudes of elected and appointed council TMT leaders towards managing in a digital government environment. The questions were developed using the literature-based cybercentrism framework adapted for local government and the CCDG model previously discussed.

Supplementary questions linked to digital government dimensions identified in the literature were also included to investigate current and

future strategies for the use of e-commerce in local government and TMT leader perceptions of the need to develop customer focused relationships and adequately equipping employees to deal with a technologically changing environment.

Redundant questions were included to identify any inconsistencies in response. To provide more sensitive rating expressing the relative intensity of the opinion, a five point Likert scale (where 1 = strongly disagree, 2 = disagree, 3 = undecided, 4 = agree, 5 = strongly agree) was used (Clarke, 1999).

5.3.2 Survey Strategy Data Collection Method

Pilot Study

The six TMT leaders of the councils making up WESROC were surveyed by mail in 2002. Each leader was supplied with an outline of the project and a copy of the survey and invited to respond. Responses were received from all six appointed leaders and four elected leaders.

The continuum map produced for this pilot group of councils confirmed placement of the member councils of this VROC in a substantially cybercentric management environment.

Based on comments from pilot study participants, and in order to better balance the dimensions and the number of survey responses required, the number of questions was reduced to twenty. The final survey instrument is found in Appendix Two.

Comprehensive Survey 2003 and 2005

The final research population was those 144 councils listed on the membership database of the Western Australian Local Government Association for the relevant year (WALGA, personal communication, 20 February 2003; WALGA, personal communication, 05 March 2005). The

process followed for administration and analysis of the survey was the same as that followed for the pilot study.

The survey response rates (Table 5-3) were sufficient to meet validity criteria for generalisation of results as the entire data set population was surveyed.

Table 5-3 Survey response rates of TMT leaders 2003 and 2005

Year	Appointed leader response rate (%)	Elected leader response rate (%)	Paired response rate (elected and appointed leaders from same council) (%)
2003	53.47	32.64	22.22
2005	54.17	35.42	20.14

The comparative response rate over both surveys for the TMT leaders is shown. Within the TMT groupings, 57% of the appointed leader response came from those who responded in both 2003 and 2005, while 40% of the elected leader responses came from those who responded in both years. This level of response supports the validity of the research outcomes (Table 5-4).

Table 5-4 Repeated survey response rates of TMT leader groups 2003 and 2005

% of 2003 appointed leader group response who did so also in 2005	% of 2003 elected leader group response who did so also in 2005
57.14	40.13

5.3.3 Survey Strategy Data Analysis

The analytical techniques used in this research are summarised in Table 5-5.

Table 5-5 Survey data analysis techniques

Test	Software package	Statistical Outcome	Rationale
Descriptive Statistics	Excel	Frequency statistics Age and educational profile for TMT leader responses. Congruence of response by question. Level of cybercentrism by question.	Overall descriptive statistics. Free text comment used in context development. Congruence of response information. Cybercentrism of response overall for Councils in Western Australia
Overall Pairs Where both elected and appointed TMT leader answered in the relevant year (not necessarily in both 2003 and 2005)	Excel	Identify paired responses in either 2003 or 2005	Comparison of overall congruence of response by question Required for case study selection process
Pairs of Pairs Where both elected and appointed TMT leader answered in both 2003 and 2005.	Excel	Identify paired responses in both 2003 and 2005	Comparison of congruence of response Required for case study selection process
Cybercentrism dimension ranking	Excel	Establish rankings for cybercentrism dimensions and trust in 2003 and 2005.	Identify any change 2003-2005 in cybercentrism dimension ranking.
Cybercentrism dimension plots 2003 and 2005 Elected v Appointed 2003 Elected v Appointed 2005	Excel	Comparison of dimension plots for 2003 and 2005 to map the extent of convergence between TMT leaders	Identify dimension shifts.
Cybercentrism continuum maps for pilot, 2003 and 2005 surveys	Excel	Responses placed on continuum from geocentric	Analysis of continuum shifts

Test	Software package	Statistical Outcome	Rationale
		to cybercentric	
Pearson Correlation with Significance Test Paired elected and appointed TMT leader groups, 2003 and 2005.	SPSS	Identify relationships among two or more dimensions	Identify strongly related dimensions and any change in these relationships 2003-2005.
Hierarchical Cluster Analysis Paired elected and appointed TMT leaders, 2003 and 2005.	SPSS	Clustering of responses	Investigate clustering of council responses relating to ACLG descriptor and identify any geographic trends.
Discriminant Analysis	SPSS	Identification of components driving clustering	Investigate cybercentrism drivers responsible for clustering effects.

The pilot study survey responses were analysed using MS Excel 2003 only, as this was an indicative study, designed to validate the survey tool.

The survey response data for 2003 and 2005 was analysed using MS Excel 2003 and the SPSS 13.0 software package according to the schedule shown. The survey questions were structured to avoid patterned response, with the extremes on the Likert scale not always indicating the same level of geocentrism or cybercentrism (i.e., in the raw data 1 does not always represent the geocentric extreme). A conversion factor based on whether 1 or 5 was the geocentric extreme was therefore applied during analysis to standardise the data and provide meaningful analysis of the level of cybercentrism.

Excel analysis was used to test the cybercentrism framework validity at the individual question and dimension level. SPSS was used to provide more detailed statistical analysis after the initial excel analysis was completed.

Although implied to some extent in the Competitiveness dimension, the questions on trust were related closely to collaboration between councils. The responses to these questions were therefore separated out from the Competitiveness dimension for the cybercentrism dimension strength analysis. This enabled clearer discussion of TMT leader attitudes towards collaborative trust in the context of implementation of virtual council models.

The assessment of cybercentrism dimension ranking was based on the questions associated with each dimension, balanced across the dimensions (Appendix Three, C.2.1).

5.4 Website Benchmarking Strategy

The e-SAT is based on representation of the 41 identified sub-components of the e-government and e-governance website e-spaces through a mixture of dichotomous and scaled measures and free text to assess the presence or absence of components, their frequency and functionality and the level of the site on which they were present. This multiple level assessment then enables conceptual mapping of council implementation of e-government and e-governance spaces over time.

Visual Studio .Net was used to create a form incorporating these requirements which would be the main data entry screen for the tool. The form was designed with buttons and radio boxes for ease of data entry. As it was intended for use as a specific research tool, rather than for software release, design was functional and the visual interface kept as clean as possible. Code was then written for the backend of the tool. The data is read from the form into an object within a vector. This vector is read and written as a stream to the hard disk for saving/loading purposes. This allows data to be saved between sessions, including partially completed website analysis.

For the purposes of viewing and statistical manipulation for data sorting and comparison using Excel 2003, a method was written to translate the object vector into a comma-separated values file. The data was then loaded into excel for statistical manipulation.

e-SAT assessment identifies:

1. The degree of functionality of the facets of digital government overall.
2. The digital government-linked e-spaces evident on the site.
3. The level of development for each of those e-spaces, linked to the frequency and functionality of the various e-space components.

The assessment identifies the concurrent e-spaces and their level on the council website, the preparation level of each e-space and the frequency and degree of functionality of each of the secondary e-components of tha space.

5.4.1 Website Strategy Data Collection Method

Western Australian local government websites were copied at six-monthly intervals between 2003 and 2005 using the Tennyson Maxwell Teleport Pro v.1.29 software package. Australian websites were also spidered using the same software in 2005. Analysis for 2007 was undertaken on live sites. Teleport Pro software was used as it is capable of reading HTML 4.0, CSS 2.0, and DHTML and thus finding all files on all sites. Teleport Pro was used to create a mirror of the council websites, with associated subdirectories and required files.

The Start Address Properties were set to explore pages up to 3 links away from the address to capture those sites using remote host websites.

5.4.2 Website Strategy Data Analysis

Copied websites (for 2003 and 2005) and live websites (for 2007) for the 66 councils included in the cluster analysis were assessed using the e-SAT. Assessment data was transferred to Excel for analysis as described

in section 4.4. As all fields were translated to Excel, this allows for detailed comparative analysis including:

1. Presence or absence of the relevant e-space features;
2. Website levels at which features are first apparent;
3. Functionality of the e-spaces (i.e. whether they are token, redundant or functional);
4. Percentage of council websites displaying the various e-spaces; and
5. Formulation of a benchmark for the degree of e-governance displayed in Western Australia which can be compared to that of the rest of Australia.

5.5 Case study interview strategy

The case study evaluation technique has been defined Yin (1994 p. 13) as: " … an empirical enquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident".

Case studies may be used in a number of different ways to investigate pre-defined phenomena (Cavaye, 1996). As they are designed to provide deep understanding of an area they are a valuable tool in information systems research. Shanks and Parr (2003) however, caution against the use of single case study research in this area.

The case study process followed in this research (adapted from the Eisenhardt (1989) eight step model) is summarised below. Eisenhardt concluded that between 4 and 10 cases are sufficient for generalisation.

Table 5-6 Case study process [*adapted from Eisenhardt, 1989]*

Eisenhardt model step	Process
1.Getting started	Literature review and establishment of field of enquiry and associated theory
2.Selecting cases	To avoid selection bias, the population for this study was all local government elected and appointed leaders in Western Australia. Case study nominees were selected from the clustered responses of the survey analysis to avoid bias and ensure representation from the full continuum of response. Case studies were selected based on the quantitative research outcomes from the survey and website analysis which formed the first part of the research project.
3.Crafting instruments and protocols	Formal case study interviews were undertaken with a set of standard questions to establish a benchmark supplied to the subject prior to the interview to ensure cross-case validity. The final constructs used for the interviews were identified from literature review and synthesis, embedded in the dimensions of cybercentrism theory (Appendix Two), built around the following areas: **3.1** Effective decision-making **3.2** Citizen interaction **3.3** Supplier interaction **3.4** Partnerships for service delivery **3.5** Resource planning for outcomes **3.6** Trust in partnerships **3.7** Preferred management model
4. Entering the field	Recorded case study interviews with the appointed and elected TMT representatives of the selected organisations were requested once the survey data had been analysed.
5. Analyzing data	The case studies involved five case studies with a total of ten interviews and the use of questions based on pre-defined concepts. The use of software program analysis (eg NVivo) was not therefore considered necessary. Cross-case analysis was included, validated by desktop document analysis and comparison with analyses examined in the literature review synthesis stage. Clarification and confirmation interview

Eisenhardt model step	Process
	techniques were used.
6. **Shaping hypotheses**	Rather than shaping hypotheses, the qualitative data from the case study interviews was used to develop context for the research. Other quantitative data produced from the surveys formed an input to this stage to assist in creating internal validity.
7. **Enfolding literature**	The context developed was considered in the context of the relevant literature, both confirmatory and contradictory.
8. **Reaching closure.**	The case study data provided input to the conclusions generated in terms of the research aims and associated research questions.

5.5.1 Development of Case Study Interview Strategy

Case Study Propositions

It is proposed that implementing local digital government forces councils to use the citizen-centric government model, developing interaction with citizens and customers in the e-spaces. Attitudes of the TMT leaders towards implementation of the seven constructs of cybercentrism plus the additional areas of trust, e-space development and citizen interaction online were investigated. The information was considered in the context of e-space analysis of each case study council website and the associated survey responses to build an interpretation of attitudes towards achieving local digital government outcomes.

Unit of analysis

The unit of analysis is the attitudes and behaviours of the individual TMT leader to produce digital government outcomes for citizens of their council. Analysis of the interviews was undertaken within the context of the seven cybercentrism constructs plus the additional dimension of trust as related to e-government, as well as e-space analysis of the case study council website.

Logic linking the data to the propositions

The cybercentrism continuum adapted for local e-government outlines the constructs for organizations to operate as VEEs, where an entity provides a physical face while operating in a virtual environment. Operation as a VEE has been shown to be necessary for a range of economic and political reasons and is relevant to councils implementing e-government.

Local digital government and the development of its various e-spaces requires different management styles, knowledge management and organizational structures. The cybercentrism continuum, developed through the survey research strategy provides the link between these attributes and the manifestation of the council acting as a VEE through its website. Case study interviews provide the contextual depth for TMT attitudes and intentions in these areas. The case study data provides information on social context, an area which cannot be identified through the survey or website instruments.

Criteria for Interpreting the Findings

Interviews were formal, with the same structured questions presented to each interviewee. The findings were therefore closely linked to and interpreted within the cybercentrism and e-space development constructs outlined previously.

5.5.2 Case Study Interview Data Collection Method

Selection Process

As discussed, Eisenhardt (1989) concludes that between 4 and 10 cases are sufficient for generalisation. In this research, 5 case studies were selected from the 8 councils where the same TMT elected and appointed leaders responded to both the 2003 and 2005 surveys (termed *"pairs of pairs"*). Case studies were selected from the quantitative research data using a three phase iterative process, diagrammed in Figure 5-1.

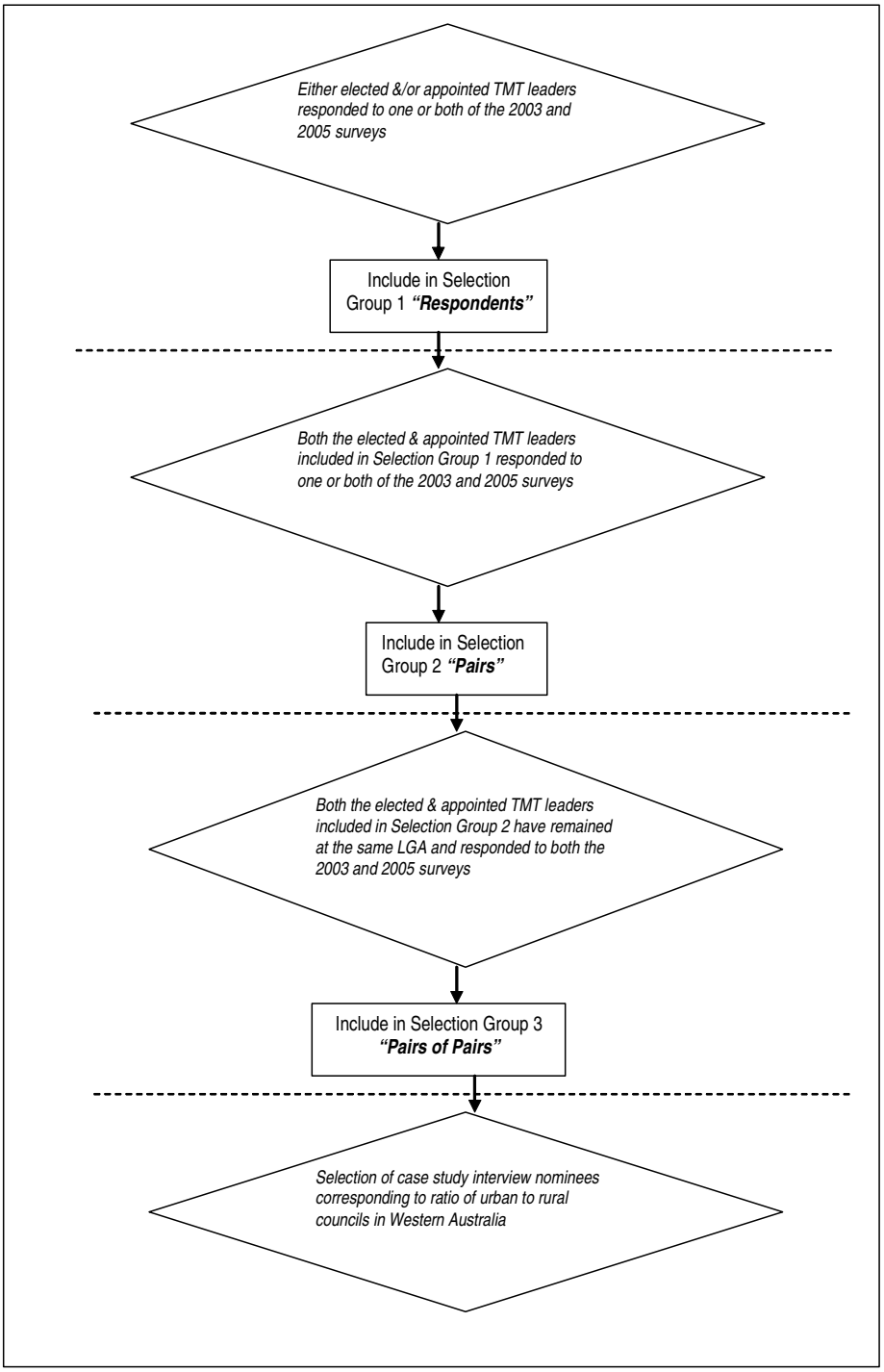


Figure 5-1 Diagrammatic representation of the iterative case study selection process

At the conclusion of the selection process, 8 TMT leader *"pairs of pairs"* were identified. "*Pairs of pairs" were* used as the selection set for case

study as this research seeks to contextualise the attitudes surrounding local digital-government implementation in Western Australia, rather than provide a success model. Indeed, the research of Chimonyo et al (2004) suggests such a model cannot be defined for Australian local government.

Using the ACLG codes to ensure case study selection was within the ratio of urban to regional/rural councils for Western Australia (i.e. 20% urban:80% regional/rural), four case study nominee councils were initially selected. One further urban council case study was included as a validation mechanism for the single urban council case study selected. Separate interviews with the elected and appointed TMT leaders of these councils were requested.

Of the 8 pairs of TMT leader pairs identified where neither the appointed nor the elected leader had changed in the period 2003-2005, interviews were arranged with 6 (two councils being considered too inaccessible). One council subsequently withdrew from the process, with the explanation that the appointed and elected leaders did not feel qualified to answer the interview questions which had been forwarded prior to the meeting.

All participants were de-identified for this study to ensure the required anonymity. A table of case study characteristics and interview benefits is presented in Chapter 7.

Interview Design

Interview design utilised the following principles laid out in Rubin (2005):

1. Thoroughness and accuracy
2. Believability
3. Credibility through transparency

Interviewees were chosen according to the iterative process outlined above. Interviews were taped with accompanying interviewer notes to ensure accuracy.

Interviewees were informed that participation in the process was voluntary and could be terminated at any time, both at the time of issuing the invitation and at the commencement of the interview. Selection of TMT leaders for interview ensured access to direct knowledge of information required. Redundancy was also incorporated into the main interview questions, as it was in the survey, to cross-check responses given. Given these design factors and because the researcher is a practitioner in the field, it was felt the interviewees were less likely to give inappropriate responses.

A transcript log and notes of interview context were kept. Interviews were taped, with the interviewer also making notes during the interview. Verbatim transcription of interview tapes was undertaken independently. The only editing was of connectors such as “umm”.

The main interview questions were developed based on the:
1. Literature review.
2. LDGF.
3. Quantitative research strategies (survey and e-SAT analysis).
4. Practitioner experience.

Supplementary questions were included to develop context in the relevant area. A table outlining the correspondence of interview and survey questions was prepared as part of the pre-interview package and is presented in Appendix Four, D.1.3.

Precise wording was used to ensure common understanding among all interviewees. On occasion, clarification was required to ensure this consistency. Probes and follow-up questions were introduced as necessary to elicit more comprehensive responses or expand further on areas introduced by the interviewee in response to the question. Restating of response was also used to ensure accuracy of interpretation.

The interview protocol (Appendix Four, D.1.3) outlines the structure of the interviews to explore the relevant survey and website e-shape analysis data, as well as the dimensions of cybercentrism and attitudes towards the benefits of website development for each council.

Preparation Schedule

Prior to the interview each interviewee was sent a copy of the following material:

1. A brief outline of the project and the permission letter approved by Ethics for signature (Appendix Four, D.1.1).
2. The seven constructs or dimensions of the cybercentrism continuum around which the survey was developed and their polar manifestations (Appendix Four, D.1.3).
3. The survey analysis for that particular council for 2003 and 2005 (Appendix Four, D.1.3).
4. The e-space development analysis for that particular council for September 2003 and September 2005 (Appendix Four, D.1.3).
5. A list of the questions to be discussed in the interview with their respective correlation to the survey questions the leader had responded to in 2003 and 2005 (Appendix Four, D.1.3).

Interview Protocol

A total of ten separate interviews were undertaken with the TMT leaders of the five councils selected. All interviews took place at the relevant council premises.

All interviewees gave generously of their time. Each interviewee was asked the same set of questions, with follow-up and probe questions used for clarification and expansion as necessary. Some interviewees declined for political and operational reasons to answer some questions.
Eight of the interviews were taped. Two interviews could not be taped due to equipment failure. Verbatim comments-related notes were taken. One interview was completed by telephone the following day at the suggestion

of the interviewee. Each interview ran for between one and a half and two hours. Extensive interview notes were also taken at each interview.

5.5.3 Case Study Interview Data Analysis Method

The aim of the case study strategy was to provide contextual depth, rather than theory development. As the number of case studies was small and the interview questions were strongly anchored in the theory supporting the survey and website assessment strategies, case study software was not used for analysis.

Interview transcripts were manually analysed in the context of the LDGF components.

5.6 Discussion

The research theory and philosophy underlying the research design and methodology have been outlined in this chapter. The study has been designed to provide data triangulation using a variety of quantitative and qualitative research strategies and as wide a sample as possible to examine attitudes towards and progress in implementation of local e-government. The research theory and associated constructs have been developed from examination of relevant literature to centre the project in current thought.

Chapter 6 presents the survey results obtained from TMT leaders in 2003 and 2005. Chapter 7 situates these results in the TMT leader interview context. Chapter 8 then provides the results from longitudinal e-SAT assessment of Western Australian council websites in 2003, 2005 and 2007. The chapter concludes with maps of the level of implementation of e-government and e-governance in these sample councils. Chapter 9 provides TMT leader interview context for the e-SAT results.

6 SURVEY STRATEGY RESULTS

The survey strategy was designed to test the validity of the cybercentrism framework adapted for local government to characterise the digital government levels of councils in Western Australia and provide a mechanism for identification of any changes in those levels over time.

6.1.1 Cybercentrism and local digital government

Local government accountability, coupled with the introduction of business practices and performance measures developed in the private sector, is effecting a fundamental change in the way services are delivered to customers. Hansen (2001) characterises this change along market and management-oriented dimensions. The market dimension is exemplified through increasing privatisation and contracting out. The management-oriented dimensions are exemplified by moves toward decentralisation of decision-making competence and responsibility, efficiency monitoring, the introduction of service and quality management systems such as Quality Assurance and benchmarking and joint forums of strategic leadership. Employee empowerment is a feature of this dimension.

With this shift comes a change in business models towards collaborative agreements and alliances and the development of virtual knowledge relationships. The cybercentric management paradigm (introduced in Chapter 2 and explained in section 4.3.2) has been proposed as the ICT-based enabler of the transformation from local government to local digital government, as local governments deal with new technical and organisational infrastructures and the demands to create value for their technologically adept citizens. Based on the literature, this paradigm adapts the seven dimensions of Gordon's cybercentric model for the management of knowledge in virtual environments (Gordon, 2000; 2001) to local government requirements (Table 6-1).

Table 6-1 The cybercentric management dimensions adapted for local digital government [*adapted from* Stanton (2002)]

Cybercentric model dimension	Features of Geocentric Management	Features of Cybercentric Management (adapted for local digital government)
1.Management	Information Technology (IT) and Management Information Systems (MIS) segregated from the rest of the business.	IT and MIS brought into key decision making.[h]
		Single points of entry to multiple agencies allowing the opportunity to interact seamlessly[a]
		Integration of e-government as an enabler into broader policy and service delivery goals[b]
2.Corporate Structure	Broad, hierarchical structure with vertical command	Flattening of the organisation with horizontal authority
		Accountability, monitoring and evaluation[b]
		Strong performance management focus[c]
3.Company Goals*	Goals/objectives are known and not questioned by management	Goals/objectives are elastic and reinvented as the market evolves and changes.
		Creating innovative solutions for the citizens and businesses served[a]
		More structured knowledge management strategies to facilitate greater information flows, better knowledge of the customer and a greater sense of organisational identity[b]
		Reengineering business processes to change the way the organisation works[b]
		Importance of focus on implementation as well as strategies[b]
4.Market Position	Defined by competition and view of market structure as defined by physical presence.	Virtually-extended company understands the agility of e-commerce[c] E-commerce as a function of local e-government [e]
		Importance of customer relationship management[a] and transformation to citizen relationship management [d]
		Customer focus providing access, choice, citizen engagement and privacy[b,g]

Cybercentric model dimension	Features of Geocentric Management	Features of Cybercentric Management (adapted for local digital government)
		Sustained customer focus and development of improved services, not just improved access[c]
5.Competitiveness	The company fights for market share, and bitterly defends its knowledge.	The council looks for opportunities to enjoin other companies in mutually beneficial R&D ventures [f, g]
		Inter-agency collaboration in customer-focused groupings . information and communications technology funding seen as an investment[b]
		Councils work together and with public sector agencies to deliver e-government[c]
6.Employment	Lifetime employment	Contract workers and consultancy
		Skills required by managers are not solely technical [or administrative] but also embrace facility in participating in the information and communications technology decision-making process[b]
		Information and communications technology skills and knowledge are essential and should be accessed from more than one person or employment source to build capacity required[c]
7.Strategic Vision	Vision defines strategies according to a limited choice of options	Cyber vision offers a wide range of strategic options limited only by the ability to alter perceptions, intervene, or destabilise existing realities
		Vision and implementation. Striking the right balance between political leadership & administrative simplicity[a]
		Vision/political will including leadership and commitment at both political and administrative levels[b]
		Practical and realistic vision and political will with a change management emphasis[c]

***** renamed to Corporate Goals for local government use

[a] Accenture (2001)
[b] OECD (2003a)
[c] Audit Commission (2002)
[d] Larsen and Milakovich (2005)
[e] Shackleton, Fisher & Dawson (2005)
[f] Dollery (2005)
[g] Ho (2002)
[h] TFG International (2004a,b)

The application of the cybercentric dimensions as management enablers of local digital government is further supported by the inclusion of leadership characteristics and guiding principles for successful e-government implementation and relationship development derived from the literature as indicated in Table 6-1.

Cybercentric management enables flexibility and the development of capacity to work collaboratively in the virtual environment and produce significant cost-effective citizen-focused outcomes. Delivering local digital government will require a strategic vision focusing on both service delivery and citizen interaction to maximise citizen benefit. It also requires flexibility and a willingness to collaborate. Cybercentric management forms part of the Local Digital Government Framework (LDGF) which can be used to provide an effective alternative to amalgamation, while delivering enhanced outcomes for the citizen.

TMT leader attitudes to providing a digital government environment can thus be analysed in terms of the cybercentrism management paradigm dimensions. Attitudinal shifts can be identified by mapping these attitudes onto a cybercentrism continuum (Figure 6-1).

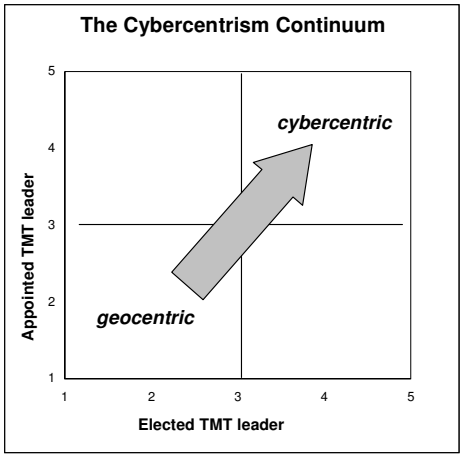


Figure 6-1 The Cybercentrism Continuum [*source* Stanton, 2002]

The cybercentrism continuum is defined within four quadrants. Thus, for example, the appointed leader of a council may have a cybercentric perspective but the elected leader for that council may have a geocentric perspective. The council would therefore be positioned in the upper left quadrant. Similarly, the elected leader may have a cybercentric perspective while the appointed leader is geocentric. In this case the authority will be positioned in the lower right quadrant. Similarly, both leaders may be cybercentric or geocentric. Those councils positioned in the upper right quadrant, towards the cybercentric end of the continuum, should be better prepared in terms of their management paradigm to implement local digital government.

Using a survey as the initial inquiry strategy established the baseline for future research, without the bias which may be introduced in an interview. Establishment of this baseline was important to test the perception that the management styles of TMT leaders are not fixed, but rather are moving on a continuum between geocentrism and cybercentrism over time as they respond to the demands of a digitally demanding, economically constrained, increasingly customer focused environment.

6.2 Pilot Study

The pilot survey was conducted in 2002. It was undertaken for two reasons:

1. to test the efficacy of the survey instrument; and
2. to show the extent of variation in the cybercentrism dimensions in neighbouring councils which collaborate in a ROC.

As discussed in Chapter 4, the survey questions were derived from the comparative elements listed in Appendix Two. Other questions linked to these dimensions were designed to add depth to the identification of TMT leader perceptions. These questions investigated current and future strategies for the use of e-commerce in local government and perceptions of the need to develop customer focused relationships and to ensure

council employees are equipped to deal adequately with a technologically changing environment.

The TMT elected and appointed leaders of the six councils making up the VROC known as the Western Suburbs Regional Organisation of Councils (WESROC) were surveyed by mail. A five point Likert scale (where 1 = strongly disagree, 2 = disagree, 3 = undecided, 4 = agree, 5 = strongly agree) was used by those surveyed to rate their responses to statements. It was decided to use a neutral category (3) in the scale, as “undecided” is a relevant response in the context of management decision-making.

Responses were received from all six appointed leaders and four elected leaders. Individual councils were randomly assigned identifying letters from A to F to de-identify the response. An average response for each dimension was derived from each leader’s response to the questions related to that dimension.

The full range of statistical analysis was not undertaken as this was a pilot study with a small sample size, designed to test the validity of the framework in describing council TMT leader group management orientation.

The survey responses were analysed in terms of their level of geocentricity or cybercentricity and mapped onto a continuum. These responses were then compared for each council’s TMT leader group and between the leader groups from each council. Finally, an average response was generated to place the TMT leader group on a management continuum from geocentric to cybercentric.

6.2.1 Descriptive Statistics

The overall average responses of the elected leader group and the appointed leader group for each dimension are shown in Table 6-1.

Table 6-2 Pilot Study comparative average responses: Elected v Appointed TMT leaders

Cybercentrism dimension	Overall average	TMT elected leader average response (n=4)	TMT appointed leader average response (n=6)
Management	4.4	4.5	4.3
Corporate Structure	2.7	3.3	2.3
Corporate Goals	2.9	2.9	2.9
Market Position	3.8	4.2	3.6
Competitiveness	3.8	3.8	3.8
Employment	3.9	3.3	4.3
Strategic Vision	3.9	4.1	3.7
Trust	4.2	4.1	4.3

The overall average results for all dimensions are cybercentric (>3.0), except in the corporate structure and corporate goals dimensions, which are geocentric. Differences can be identified between the individual leader groups. Elected leaders were more cybercentric than appointed leaders in most dimensions with the exception of trust and employment. Both leader groups displayed the same geocentrism in the corporate goals dimension.

6.2.2 Cybercentrism Dimension Plots

Each cybercentrism dimension was represented by more than one question in the survey to explore the responses in depth and include selective redundancy to identify response anomalies. Dimension analysis was thus based on average responses to the questions linked to each dimension. Figures 5-1 and 5-2 show the responses of the TMT leaders of each of the six individual authorities for each dimension.

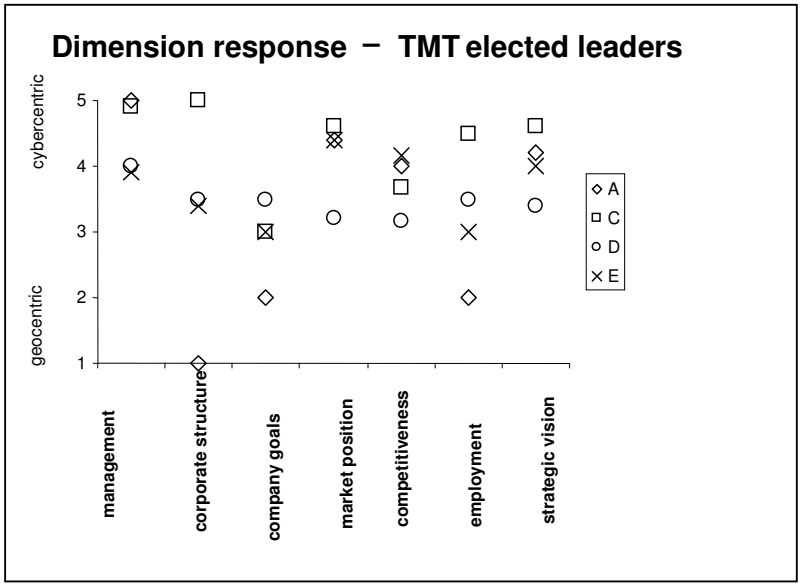


Figure 6-2 Pilot Study: Comparison of cybercentrism of TMT elected leader responses by dimension

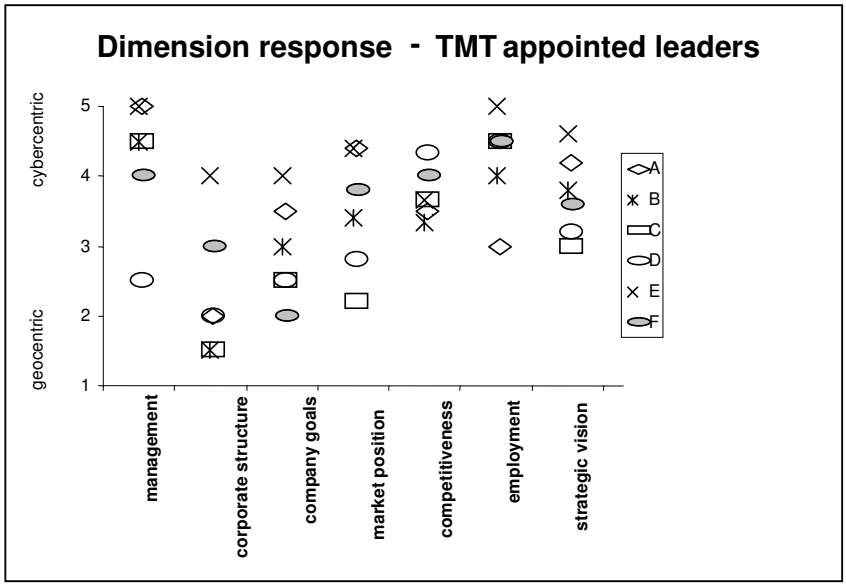


Figure 6-3 Pilot Study: Comparison of cybercentrism of TMT appointed leader responses by dimension

The survey instrument enabled demonstration of differences in response between the elected and appointed leaders of each council. Council C leaders, for example, differ markedly in their perception of their market position. In the context of the cybercentrism framework for local government, this may impact on their view of their target market segments

and subsequently on the development of appropriate customer relationship management strategies.

Similarly, Council A leaders differ in their perception of the function of corporate goals and the most appropriate structure for their organisation to achieve effective outcomes for their customers. This geocentric bias has implications for the progression to using a VEE structure with its decentralised decision-making and empowered employees.

Council E exhibits a consistently cybercentric approach in most dimensions. However, there is an apparent difference in this Council between appointed and elected executive perceptions in the employment dimension, indicating tension between the expected level of expertise to be held in-house and the level of use of contractors.

6.2.3 Cybercentrism continuum maps: Overall TMT group pairs

The cybercentrism of the council can be visually represented by mapping the response of appointed and elected leaders into quadrants defined by the geocentrism or cybercentrism of each response. The pilot study continuum maps are provided in Appendix Six, F.1.

The combined responses for the four pilot study councils where both the TMT leaders responded are shown in Figure 6-4. Although some councils were more advanced than others in certain cybercentrism dimensions, overall, in the four WESROC authorities where both the TMT leaders responded, the organisations can be seen to be operating on the cybercentric side of the continuum, i.e. in a more cybercentric than geocentric mode. However, this is obvious to differing extents and with differences apparent between elected and appointed leaders.

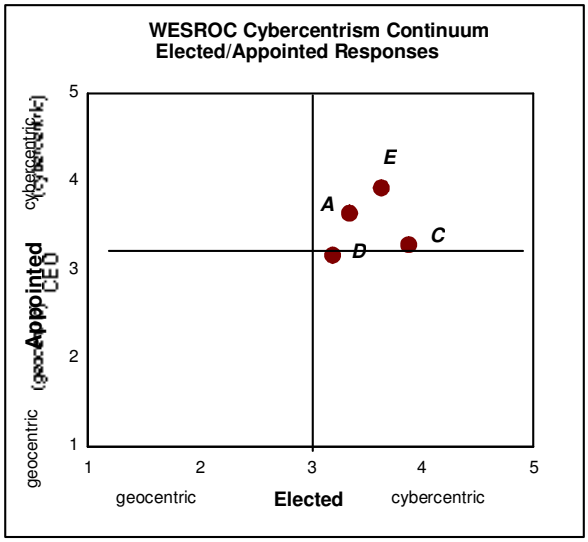


Figure 6-4 Pilot Study: Overall cybercentrism continuum map-Pairs

6.2.4 Cybercentrism continuum maps: Individual dimensions

Figure 6-5 shows the NPM principle of employee empowerment is being embraced more gradually by some of the WESROC Councils than others. The cybercentrism framework theory suggests that Council A, particularly, exhibits a strongly geocentric response encompassed in a hierarchical structure with vertical command. By contrast, Council E exhibits strong cybercentrism for both appointed and elected leaders. Councils with strongly geocentric responses in this dimension are still in the early stages of moving away from the bureaucratic model towards the more flexible model required for implementation of the local e-government vision.

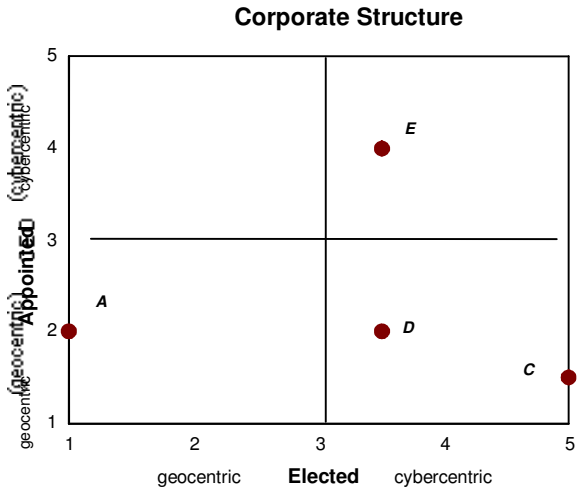


Figure 6-5 Pilot Study: Continuum map-Corporate Structure

The overall level of cybercentrism in the corporate goals dimension is low. The responses for the four authorities where both the elected and appointed leader responded are shown in Figure 6-5.

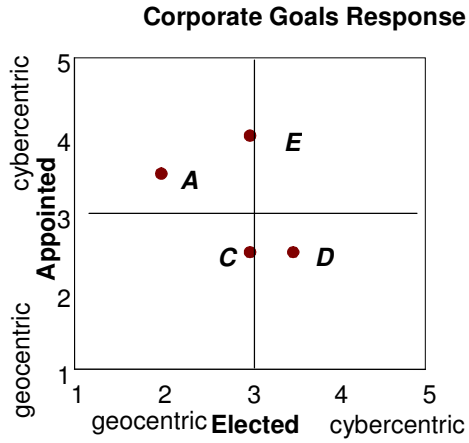


Figure 6-6 Pilot Study: Continuum map-Corporate Goals

Council E is the most progressive in this dimension, with both the elected and appointed responses in the respective cybercentric quadrants. While there is some progress toward a cybercentric attitude towards goal setting, it can be seen that the WESROC authorities had not fully embraced the principles of flexible goal setting in 2002.

6.2.5 Cybercentrism dimension strength

The level of cybercentrism of the various dimensions for the TMT leader groups can be plotted and ranked. Figure 6-7 shows these rankings from the least cybercentric dimension (Corporate Structure) to the most cybercentric dimension (Trust).

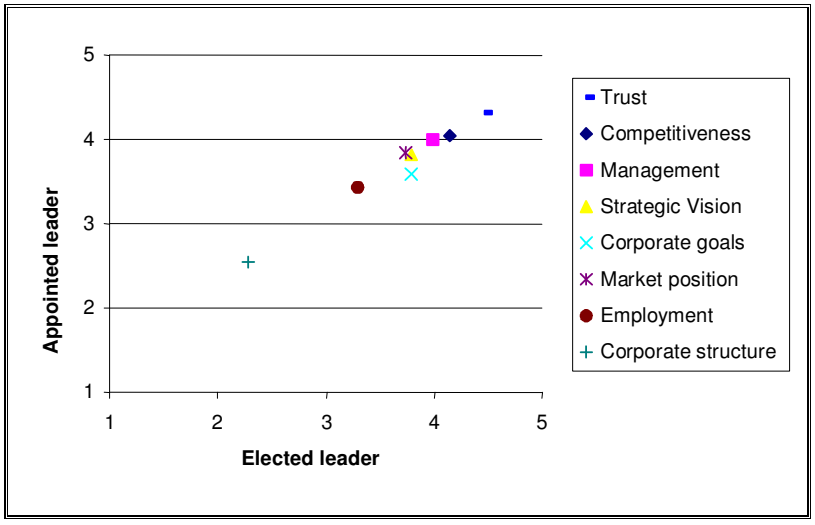


Figure 6-7 Pilot Study: Cybercentrism dimension ranking

The pilot study provided evidence that the operation of councils can be described in terms of the cybercentrism dimensions adapted for local government and that the survey design was appropriate. The survey instrument was sensitive enough to display differences between and within leader groups of neighbouring councils. The pilot study also showed differences could be identified and displayed in a manner which could be consistently interpreted within the cybercentrism framework adapted for local government.

To assess any change over time in leader group attitudes, the revised questionnaire based on this pilot study was then administered to the total population of all TMT appointed and elected leaders in 2003 and again in 2005 (WALGA, personal communication, 20 February 2003; WALGA, personal communication, 05 March 2005). The results of these surveys are presented below.

6.2.6 Pilot Study Discussion

The pilot study survey tool of 25 questions was designed to test the use of the cybercentrism framework adapted for local government to characterise the digital management orientation of councils in Western Australia. The pilot study results showed the framework characterised differences between councils within a VROC, thus confirming its capacity to identify differences within the sample set. Use of the framework also enabled identification of differences between elected and appointed leaders, both within councils and between councils, validating the questions used and providing a basis for further data collection using this survey instrument to identify possible drivers for these differences.

6.3 Survey Results 2003 and 2005

In 2003 the pilot study was extended to encompass all appointed and elected representatives of the 144 LGAs in Western Australia on the WALGA database (WALGA, personal communication, 20 February 2003; WALGA, personal communication, 05 March 2005). This was undertaken to maximise the significance of the findings and therefore their generalisation to all councils. The survey instrument was administered at two time points to identify whether the cybercentrism framework was sensitive enough to identify changes in the digital government orientation of councils over time, should these exist.

A modified survey instrument of 21 questions was developed from the pilot study conducted in 2002. This instrument balanced the number of questions related to each dimension and provided clarified wording to assist understanding as a result of respondent comments. The survey instrument is provided in Appendix Three.

6.3.1 Descriptive Statistics

Response Rates

The survey response rates shown in Table 6-2 were sufficient to meet validity criteria for generalisation of results, given the entire population of Western Australian councils was surveyed.

Table 6-3 Survey response rates of TMT leaders 2003 and 2005

Year	Appointed leader response rate (%)	Elected leader response rate (%)	Paired response rate (elected and appointed leaders from same council) (%)
2003	53.47	32.64	22.22
2005	54.17	35.42	20.14

This response was sufficient to enable analysis to be undertaken based on paired responses from both TMT leader groups in either or both survey years, to provide a more powerful analysis which can be generalised.

Identification of responses where both TMT leaders responded in both survey years fed into the case study selection process. These case studies therefore provide contextual development around the survey interpretations and possible drivers which can be generalised. It also enabled separate analysis of the TMT leader group responses in the context of the cybercentrism dimensions being explored to provide deeper characterisation of similarities and differences between councils and leader groups.

The comparative response rate in both surveys for the TMT appointed and elected leader groups is given in Table 6-3. Within the TMT, 57% of the response came from appointed leaders who responded in both 2003 and 2005, while 40% of the elected leader responses came from those who responded in both years. This level of response supports the validity of the research outcomes.

Table 6-4 Repeated survey response rates of TMT leaders for 2003 and 2005

% of 2003 appointed leader group response who did so also in 2005	% of 2003 elected leader group response who did so also in 2005
57.14	40.13

The descriptive statistics for the survey responses for both leader groups in 2003 and 2005 are shown below.

Table 6-5 Elected and appointed leader descriptive statistics over the 21 survey questions — 2003 & 2005

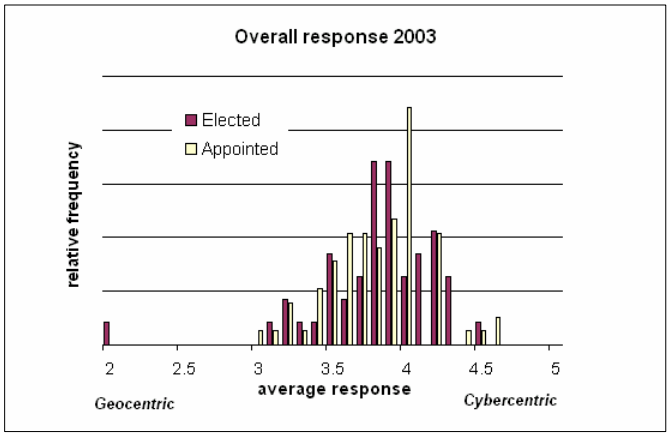
	Mean	Median	Max	Min	SD
2003					
Elected	3.75	3.81	4.43	1.95	0.41
Appointed	3.75	3.76	4.57	2.95	0.33
2005					
Elected	3.86	3.81	4.81	2.19	0.49
Appointed	3.81	3.81	4.62	2.10	0.46

Overall, both TMT leader groups are operating in a cybercentric environment ($x>3$). A slight increase in cybercentrism is seen between 2003 and 2005 for both TMT leader groups. However, the SD for each group has increased indicating an increased spread of response to the question.

Whilst the maximum responses remained highly cybercentric, over the two surveys the minimum for the elected leaders moved up slightly within the geocentric range (1.95 to 2.16), whereas the minimum for the appointed leaders moved down more noticeably within the geocentric range (2.95 to 2.10).

The SD increased between 2003 and 2005. This wider range of response is reflected in the overall cybercentrism level of response for TMT elected and appointed leader responses in 2003 and 2005 shown below. These results range from geocentric to cybercentric and change over time, confirming use of the cybercentrism framework adapted for local

government to characterise councils is scaled, sensitive and consistent at all levels of analysis.



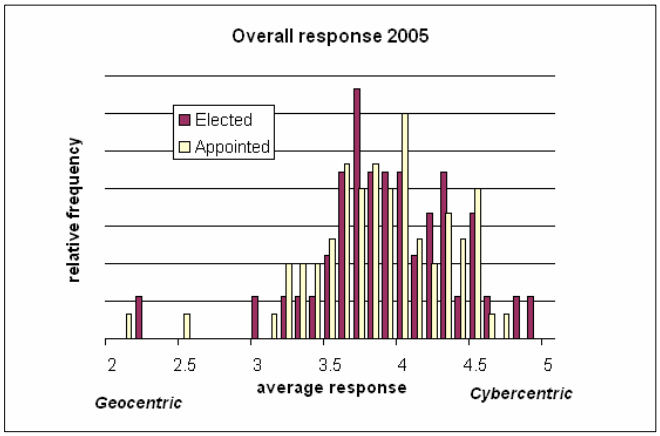


Figure 6-8 Overall cybercentrism of response 2003 & 2005

The overall averages provide information on:

1. Change over time.
2. Change by TMT leader group.
3. Change by TMT leader group pairs.

The overall congruence and cybercentrism level of response by question for TMT leader responses in 2003 and 2005 is shown in Figure 6-8.

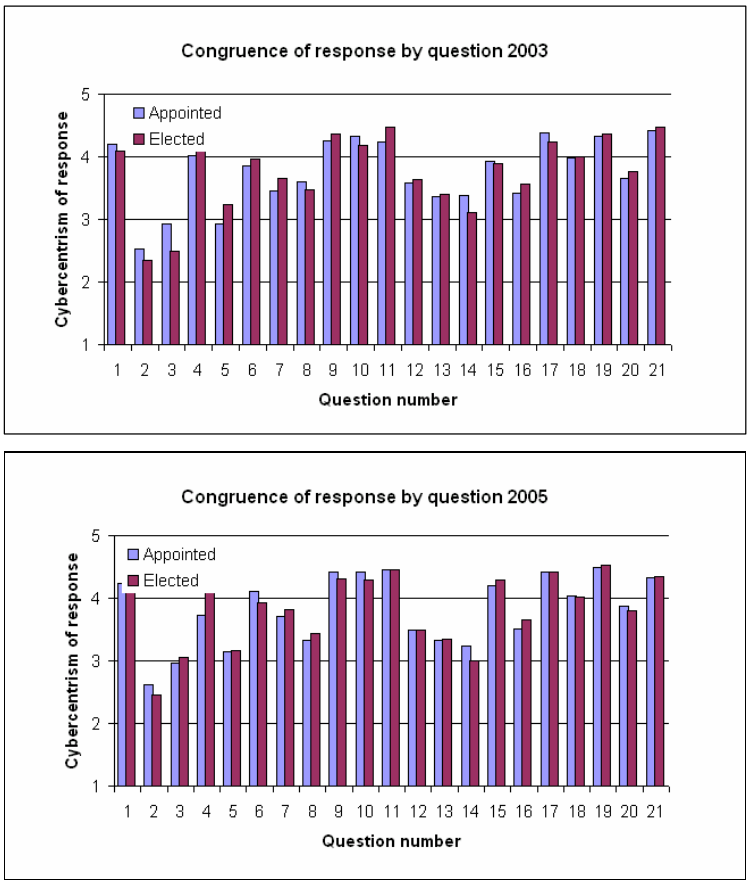


Figure 6-9 TMT leaders' congruence of response by question 2003 & 2005

A number of areas where the appointed leader response to individual questions is more cybercentric than that of the elected leader in 2003 can be identified, including question 3 (administrative structure) and question 14 (expertise). By contrast, in 2005 responses in these areas have become more congruent, caused by elected and appointed responses becoming similar on average over all councils.

Individual dimension analysis

All comparative results for each question in each year of the survey can be found in Appendix Six, F.2.2. The aim of this analysis was to investigate the characterisation of councils within the cybercentrism framework. Grouping the questions into their relevant dimensions provides a direct link to the cybercentrism framework for characterisation in more depth of the areas of:

1. Change over time.
2. Change by TMT leader group
3. Change by TMT leader pairs.

Selected results are presented below in terms of the seven dimensions of the cybercentrism paradigm and the additional dimension of trust which formed the basis of the survey instrument. Each dimension was represented by a number of individual questions in the survey.

From this analysis it was concluded that the survey responses provided were not random, and using the cybercentrism management paradigm as the basis of the survey instrument provided valid material for analysis.

Management Cybercentrism Dimension (Survey questions 1 and 4)
This dimension investigated attitudes towards the role IT and MIS play in councils.

Between 2003 and 2005, the cybercentrism of both elected and appointed leaders increased towards the importance of the integration of IT and MIS in decision-making aspect of the management dimension. There is a high level of congruence of response in this dimension.

Responses concerning management computer literacy within this dimension also indicate overall cybercentrism. However, between 2003 and 2005 a movement towards a less cybercentric response by both groups of leaders can be identified.

Corporate Structure Cybercentrism Dimension (Survey questions 2 and 3)
This dimension investigated the preferred management model of councils.

A geocentric response in this dimension indicated a bureaucratic mode of operation for the council. In both 2003 and 2005 the response to this dimension was mixed. The average response to question 2 was strongly

geocentric. The average response to question 3, was only slightly more cybercentric.

The comparison of response between 2003 and 2005 shows that the geocentrism of the response is decreasing, indicating that while the bureaucratic mode is predominant, a shift towards a more flexible structure can be identified.

Whilst the majority of TMT leaders' responses for this dimension are geocentric, a significant number are either neutral or cybercentric, indicating attitudes towards the necessity of a bureaucracy for the administration of local government may be changing.

Elected leaders are more firmly geocentric in this dimension than appointed leaders. Some appointed leaders are strongly cybercentric, more so than their corresponding elected leaders. This may be indicative of a higher level of operational knowledge of appointed leaders.

Corporate Goals Cybercentrism Dimension (Questions 5, 8 and 10)
This dimension investigated the operational modes of councils from the TMT appointed and elected leader perspectives.

The response to question 5 in 2003 and 2005 is spread across the continuum, indicating neither mode of operation is dominant. An overall cybercentric shift away from bureaucracy, led by appointed leaders, is apparent in 2005.

The response to question 8 is also spread across the continuum. Whilst the overall cybercentric response of 2003 is still apparent in 2005, those appointed leaders who were neutral have moved more towards the geocentric area of the continuum. This indicates a mixed mode of operation, where bureaucracy is no longer the dominant operational model, but the transition to the more flexible, flatter management model is not complete or uniform.

Question 10 related to internal resource planning for efficiency, an NPM-related characteristic. The responses in both 2003 and 2005 indicate a cybercentric mode of operation in this area, with appointed leaders particularly becoming more cybercentric in 2005 compared to 2003.

Market Position Cybercentrism Dimension (Questions 6, 7 and 17)
This dimension investigated the e-commerce and customer relationship attitudes of TMT leaders.

Question 6 related to the importance of delivering local government services online, with the example of payment of rates online given. The response overall in both 2003 and 2005 is cybercentric. However, the appointed leader response becomes more firmly cybercentric in 2005, while the elected leader response becomes slighty less cybercentric.

Question 7 investigates the e-commerce relationship between local government and its suppliers, with the example of electronic document interchange given. The response in 2003 and 2005 is spread across the continuum with elected leaders more cybercentric than appointed. In 2005 elected leaders have become more geocentric in their position while appointed leaders have become more cybercentric. The cybercentricity of response seen in question 6 in relation to the community is not as evident in question 7 in relation to suppliers.

Similarly, question 17 explored the importance of the development of a customer-focused relationship in successfully delivering outcomes. The response of both leader groups was strongly cybercentric in both 2003 and 2005, with both groups becoming more cybercentric in 2005.

Competitiveness Cybercentrism Dimension (Questions 9, 11, 15 and 18)
This dimension explored two areas identified through Gordon's cybercentrism model (Gordon, 2000, 2001) to enable competitiveness in the digital era, i.e. knowledge-sharing and collaboration.

Questions 9 and 11 concerned alliance-building to deliver mutually beneficial outcomes and attitudes towards collaborative knowledge-sharing initiatives between councils.

TMT leader responses to these questions in 2003 were cybercentric, becoming more pronounced in 2005. Clearly, councils are looking to provide outcomes through knowledge-sharing and collaboration. This is echoed in the responses to questions 15 and 18 which related to knowledge-sharing and actively seeking opportunities to participate in regional projects.

Employment Cybercentrism Dimension (Questions 14 and 16)
This dimension investigated views on in-house expertise and the use of consultants and contract workers.

In 2003 the response to the question of whether holding all necessary expertise among employees would produce the best outcome was spread across the continuum.

In 2005 it was still spread across the continuum, however elected leaders had become noticeably more geocentric in their outlook. For appointed leaders, some movement was seen in both directions from the more neutral stance towards the geocentric and cybercentric parts of the continuum.

Question 16 shows, however, that contractors and consultants are employed on a regular basis, with responses shifting to the more cybercentric area of the continuum in 2005 compared to 2003. The largest shifts were for the appointed leaders in the cybercentric direction, whereas elected leaders have become slightly more geocentric.

Strategic Vision Cybercentrism Dimension (Questions 12, 13 and 20)
This dimension explored strategy development intentions for incorporating e-commerce into future interaction with customers (including citizens,

ratepayers, businesses, sporting groups, community groups) and suppliers.

In 2003, the view for both elected and appointed leaders towards this in relation to customers was cybercentric. However, appointed leaders became more polarised in 2005, with a smaller shift to the more geocentric area of the continuum at the same time as a larger shift towards the cybercentric location on the continuum.

Similarly, in response to question 13 examining this in relation to suppliers, there was a spread in 2003, elected leaders being slightly more cybercentric than appointed leaders. However, in 2005 the response has become more evenly spread over the continuum and more congruent between the leader groups. This shift in response is mainly by the appointed leaders, with a small increase in the geocentrism of elected leaders.

Question 20 explored the intention of the council to operate in a virtual as well as a physical environment, with the example of internet website, discussion groups and online forums or the creation of a business portal given. In 2003, the response is cybercentric overall, with elected leaders most cybercentric, but with a significant neutral response also evident. In 2005 the response became more congruent between the leader groups, with those appointed leaders who were cybercentric in 2003 becoming more so in 2005.

Trust (Questions 19 and 21)

This set of questions separated out the trust aspect implicit in Gordon's competitiveness dimension to explore attitudes towards inter-governmental trust requirements. This may be of importance in the context of joined-up government.

Question 19 emphasised the trust aspect of collaborative projects between councils and other government agencies. Trust is clearly identified as

important, with a strongly cybercentric response, increasing in strength between 2003 and 2005. In 2003 the elected leaders were slightly more cybercentric than the appointed leaders. In 2005 the responses became more congruent due to appointed leaders becoming more cybercentric, with a slight geocentric shift by elected leaders.

Similarly, in question 21 which placed emphasis on the potential for collaborative partnerships to be successful solely through contractual control, the responses mirrored those of question 19.

From this analysis it was concluded that the dimensions of the cybercentrism framework carry significant information and validate the use of a survey tool based on this framework.

6.3.2 Cybercentrism plots

Individual Survey Question Response SDs and Aggregated Cybercentrism Dimension SDs 2003 and 2005

The congruence of response among and between elected and appointed leader groups in 2003 and 2005 can be visually represented by plots of the SD between responses. These plots are provided in Appendix Six, F.2.3 Individual survey questions were aggregated into their relevant cybercentrism dimensions to provide plots of the SD between dimensions. These plots are provided in Appendix Six, F.2.4

Differences of opinion between the elected leaders have decreased in 2005, while appointed leaders are showing a wider opinion range. In 2005 the leader groups are becoming more congruent with each other.

6.3.3 Cybercentrism Continuum Maps

Developing the continuum maps

Using TMT leader paired responses for each of the survey years, the cybercentrism of response can be visually represented by mapping onto

quadrants ranging from 1 (geocentric) to 5 (cybercentric) for each response group.

Continuum maps were developed for TMT leader groups where both the elected and appointed leaders from the same council responded in the relevant year. Leader pairs were extracted to provide validated results for generalisation to the entire data set.

6.3.4 Cybercentrism Dimension Ranking

The overall level of cybercentrism of the various dimensions can be plotted and the rankings compared between 2003 and 2005 (Appendix Six, F.2.5).

It can be seen that the cybercentrism dimension ranking has remained stable between 2003 and 2005. The dimension ranking from least cybercentric to most cybercentric was found to be:

1. Corporate Structure
2. Employment
3. Corporate Goals
4. Market Position
5. Strategic Vision
6. Management
7. Competitiveness
8. Trust

These rankings are comparable to those found in the pilot survey, confirming the strength of the survey instrument and the validity of those survey results in the wider context of the total population.

While councils in Western Australia can be considered to be operating in a cybercentric mode overall, the Corporate Structure dimension is geocentric in both 2003 and 2005, indicating councils are retaining a less flexible attitude. This in turn may impact on their ability to implement local e-government and may be manifested as a perceived human resource

limitation. This concept is considered further through the TMT leader interviews in Chapter 7.

Section F.2.5.1 shows the continuum map for the elected and appointed TMT leader groups in both 2003 and 2005. A high degree of congruence between the appointed and elected attitudes in each of the dimensions is repeated in each of the years.

Sections F.2.5.2 and F.2.5.3 show the movement in the dimensions for both the appointed and elected leader groups respectively between 2003 and 2005. The dimensions remain in the same order relative to each other for both groups. In the appointed leader group, the Employment dimension for 2005 is moving up from the diagonal, suggesting an increasingly cybercentric attitude in this dimension. Corporate Structure remains unmoved and in the geocentric quarter of the continuum map. However, this is not reflected in the elected leader continuum map, where Corporate Structure has become more cybercentric.

Cybercentrism maps - TMT leader pairs 2003 and 2005

The cybercentrism of average paired response by council, where both the elected and appointed council TMT leader responded in 2003 and 2005 is shown below and in Appendix Six, F.2.6.

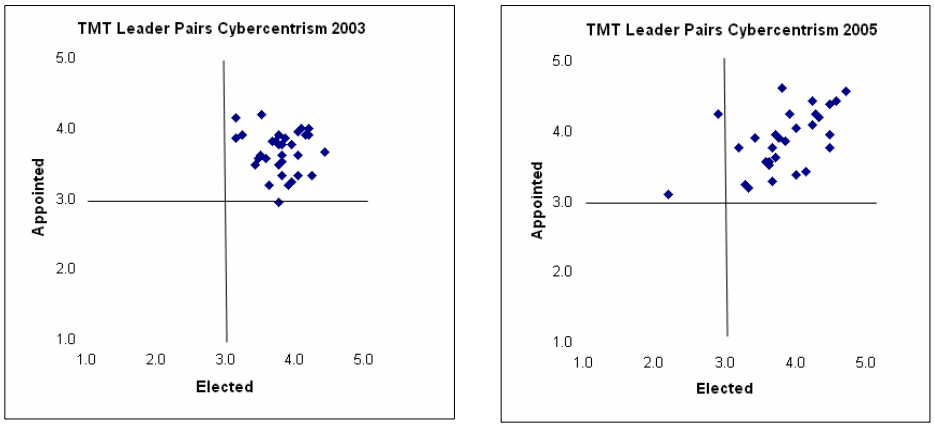


Figure 6-10 TMT leader pairs cybercentrism 2003 & 2005

Responses from both surveys are located in the upper right hand cybercentric/cybercentric quadrant of the map. In 2005, the average overall cybercentrism has increased, however some outlier geocentric responses are also apparent as the variance increases.

It is appropriate to generalise from these maps, as discussed previously, as they are derived from the TMT leader paired responses for each survey year.

6.3.5 Pearson Correlation with Significance Test

Pearson correlation has been used to identify relationships between the cybercentrism dimensions within and between TMT leader groups. The 2003 and 2005 survey results are reported at two significance levels, $p<0.01$ and $p<0.05$. Correlation results have been used to inform statistical reasoning, however they have not been used to imply causation, which was investigated using cluster and discriminant analysis, and is discussed later in this chapter.

Complete Pearson correlation test results are presented in Appendix Six, F.4. Summary tables of the correlations at $p<0.01$ and $p<0.05$ are presented in Table 6-6.

Table 6-6 Cybercentrism dimensions Pearson correlations p<0.01 Elected/Elected

Dimensions Correlated	Strength of correlation (r)
Market position/Management	0.700
Competitiveness/Management	0.460
Strategic Vision/Management	0.600
Competitiveness/Corporate Goals	0.384
Competitiveness/Market Position	0.696
Employment/Market Position	0.397
Strategic Vision/Market Position	0.791
Strategic Vision/Competitiveness	0.673
Trust/ Competitiveness	0.338
Trust/Employment	0.354
Trust/Employment	0.354
Trust/Strategic Vision	0.361

The correlation statistics in Table 6-6 show that for TMT elected leaders strong correlations are identified between the dimensions of:

1. Market Position/ Management.
2. Strategic Vision/Management.
3. Competitiveness/Market position.
4. Strategic Vision/Market position.
5. Strategic Vision/Competitiveness.

Correlation between four of the cybercentrism dimensions is evident. The strongest correlation is between Strategic Vision and Market Position. These correlations relate to strategic planning outcomes.

A weaker positive correlation between Trust/Management and Trust/Market Position dimensions for this leader group is seen below.

Table 6-7 Cybercentrism dimensions Pearson correlations p<0.05 Elected/Elected

Correlation	Strength of correlation (r)
Trust/Management	0.282
Trust/Market Position	0.237

Strong correlations between a number of dimensions for TMT appointed leaders (shown below) were identified:

1. Management/Market position
2. Management/Competitiveness
3. Management/Strategic Vision
4. Market position/Competitiveness
5. Market position/Strategic Vision
6. Competitiveness/Strategic Vision

Table 6-8 Cybercentrism dimensions Pearson correlations p<0.01 Appointed/Appointed

Correlation	Strength of correlation (r)
Management/Corporate Structure	**-0.382**
Management/Market Position	0.592
Management/Competitiveness	0.675
Management/Strategic Vision	0.607
Corporate Goals/Competitiveness	0.369
Corporate Goals/Strategic Vision	0.347
Corporate Goals/Trust	0.330
Market Position/Competitiveness	0.629
Market Position/Strategic Vision	0.719
Market Position/Trust	0.318
Competitiveness/Employment	0.358
Competitiveness/Strategic Vision	0.613
Competitiveness/Trust	0.413
Strategic Vision/Trust	0.409

As with the elected leader group analysis, strong correlation between the same four cybercentrism dimensions can be seen. As with the elected leader group, the strongest positive correlation is between the Market Position and Strategic Vision dimensions.

For the TMT elected leaders, no negative correlations at the $p<0.01$ or $p<0.05$ level were identified. However a negative correlation was identified at the $p<0.01$ level for the TMT appointed leaders between the Management (including IT and MIS in decision-making) and Corporate Structure dimensions.

Two weaker negative correlations at the $p<0.05$ level for the TMT appointed leader group between the operational dimension of Corporate Structure and the more strategic dimensions of Market position and Strategic vision were identified. A weak positive correlation between the Management and Trust dimensions is also identified.

Table 6-9 Cybercentrism dimensions Pearson correlations p<0.05 Appointed/Appointed

Correlation	Strength of correlation (r)
Management/Trust	0.260
Corporate Structure/Market Position	**-0.274**
Corporate Structure/Strategic Vision	**-0.284**

Elected/Appointed correlations

The dimension correlations between TMT leader groups at the $p<0.01$ level are listed in Table 6-9. A positive correlation between the Employment (expertise-related) and Strategic Vision dimensions is also seen.

Table 6-10 Cybercentrism dimensions Pearson correlations p<0.01 Elected/Appointed

Elected	Appointed	r
Management	Corporate structure	**-0.349**
Employment	Strategic vision	0.336

Once again, a weak negative correlation between the Management (IT and MIS in decision-making) and Corporate Structure dimensions can be seen. Weaker positive correlations at the $p<0.05$ level were seen for a number of dimensions. One negative correlation between Market Position (related to customer relationship development and VEE operation) and Corporate Structure is identified.

Table 6-11 Cybercentrism dimensions Pearson correlations p<0.05 Elected/Appointed

Elected	Appointed	r
Corporate Structure	Corporate Structure	0.282
Market Position	Corporate Structure	**-0.317**
Competitiveness	Trust	0.263
Employment	Trust	0.301
Strategic Vision	Management	0.270

6.3.6 Classification - Hierarchical Cluster Analysis

In order to determine the drivers for the survey responses returned, further classification was undertaken. As the drivers could be hypothesised as common across councils, identification of possible groupings of councils may provide further information to deepen interpretation of the results.

Hierarchical cluster analysis was thus performed on the survey responses. This procedure attempts to identify relatively homogeneous groups of cases based on selected characteristics, using an algorithm that starts with each case in a separate cluster and combines clusters until only one is left. It was used to identify any grouping of councils according to the cybercentrism level of each of the eight survey dimensions for the TMT leader groups.

The data set for this analysis was made up of the response from each council which had one or both TMT leaders respond in either 2003 or 2005

(66 councils in total). Each council was identified by their relevant ACLG code in the cluster.

Ward's Linkage was selected as the cluster method linkage function. The linkage function specifying the distance between two clusters is computed as the increase in the "error sum of squares" (ESS) after fusing two clusters into a single cluster. Ward's Linkage seeks to choose the successive clustering steps so as to minimize the increase in ESS at each step.

The Ward's dendrogram was used for assessment of the cohesiveness of the clusters formed. The dendrogram for classification via hierarchical cluster analysis using Ward's Linkage is presented in Appendix Six, F.5.

Cluster analysis showed that at a broad level the responses could be divided according to whether the council was regional/rural or urban. The composition of urban and rural councils in each cluster is shown in Table 6-12.

Table 6-12 Cluster composition based on paired leader group survey response

Cluster Number	# Urban Councils	# Regional/Rural Councils	Total
1	10	2	12
2	11	9	20
3	0	8	8
4	1	8	9
5	1	6	7
6	0	1	1

Group Statistics

Appendix Six, F.6.2 shows the Group Statistics for the cybercentrism dimensions for each cluster. The means and standard deviations for each cybercentrism dimension are shown for both the TMT elected (with prefix 'm') and appointed (with prefix 'c') leader cybercentrism dimension

responses. The codes for interpretation of the cybercentrism dimensions related to the Group Statistics are listed in Appendix Six, F.6.1.

The cybercentricity of the cluster can be examined through these statistics. For example, Cluster 1 members are cybercentric ($\overline{X}$>4.0) in 13 of the 16 dimension responses. The TMT elected leaders for this cluster are cybercentric, but to a lesser extent in the corporate goals dimension and are least cybercentric in the corporate structure dimension. The TMT appointed leaders in this cluster, however, whilst cybercentric in seven of the eight dimensions are strongly geocentric ($\overline{X}$ = 2.6042) in the corporate structure dimension.

By contrast, in Cluster 2 TMT elected leaders are geocentric in the corporate structure dimension ($\overline{X}$ = 2.03) and generally less cybercentric than Cluster 1 members in the other dimensions. TMT appointed leaders in this cluster are also strongly geocentric in the corporate structure dimension ($\overline{X}$ = 1.90) and less cybercentric in all other dimensions than their counterparts in Cluster 1.

Appendix Six, F.6.2 also shows a cybercentric approach to the dimension of trust across all clusters, although the strength of the cybercentrism declines gradually moving from Cluster 1 (most cybercentric) to Cluster 6 (least cybercentric).

As clusters had been identified, it was decided to use discriminant analysis to identify the drivers for the differences between the clusters.

6.3.7 Discriminant Analysis

Discriminant analysis was used to build a predictive model for cluster group membership and identify the drivers for the difference between the clusters. The procedure generates discriminant functions based on linear combinations of the predictor variables that provide the best discrimination between the cluster groups. These functions can then be applied to new

cases with measurements for the predictor variables but unknown group membership, allowing generalisation of the result.

Eigenvalues

The eigenvalues calculate the powers of the matrix. The SPSS eigenvalues statistics for this analysis (Appendix Six, F.6.3) indicate all 8 dimensions are needed to explain the cluster classifications. However, 44.2% of the variance can be explained by Function 1 and a further 25.1% of the variance is explained by Function 2.

Table 6-13 Discriminant analysis structure matrix

	Function				
	1	2	3	4	5
mstrat	**.526(*)**	-.120	.349	-.465	-.059
mmarket	**.452(*)**	-.244	.220	-.114	-.020
mman	**.375(*)**	-.151	.211	.139	-.119
memploy	**.196(*)**	.054	-.029	-.088	.144
mstruc	.059	**.567(*)**	.226	-.004	-.252
cstruc	-.315	.346	**.449(*)**	-.170	.369
cman	.297	.103	**-.420(*)**	.011	.143
cmarket	.196	.262	**-.386(*)**	.041	-.177
cstrat	.209	.136	**-.340(*)**	-.021	.050
ccompet	.154	.204	**-.338(*)**	.053	-.076
mcompet	.280	-.136	**.332(*)**	-.153	-.252
mtrust	.136	-.108	**.194(*)**	-.074	-.048
cemploy	.165	.085	.067	**.585(*)**	.246
ctrust	.157	.077	-.181	**-.242(*)**	-.125
cgoals	.140	.198	-.181	-.249	**.412(*)**
mgoals	.119	.097	.105	.122	**-.150(*)**

Pooled within-groups correlations between discriminating variables and standardized canonical discriminant functions.
Variables ordered by absolute size of correlation within function.
* Largest absolute correlation between each variable and any discriminant function

Examination of the Structure Matrix (Appendix Six, F.6.3 and Table 6-13) using the identifiers listed in Appendix Six, F.6.1 reveals the largest absolute correlation between the cybercentrism dimensions and discriminant function 1 (accounting for 44.2% of the variance) are all related to the TMT elected leaders. In order of strength of correlation, these are the dimensions of:

1. Strategic vision.
2. Market position.
3. Management.

4. Employment.

Similarly, the largest absolute correlation between the dimensions and discriminant function 2 (accounting for 25.1% of the variance) is related to the TMT elected leader response to the corporate structure dimension. It is not until discriminant function 3 is reached (contributing 16.6% of the variance) that an appointed leader effect is identified.

Territorial Map

The territorial map (Figure 6-11) plots the boundaries of the council clusters based on function values. The numbers correspond to the clusters (1-6) into which the councils were classified by hierarchical cluster analysis. The mean for each cluster is indicated by the asterisk within its boundaries.

The territorial map visualises the cluster formation driven by discriminant functions 1 (TMT elected leader corporate structure dimension) and 2 (TMT elected leader strategic vision, market position, management and employment dimensions). Clusters 6 and 3 form at the positive pole of discriminant function 2, while clusters 2, 4 and 5 form at the negative pole. Cluster 1 overlaps both areas.

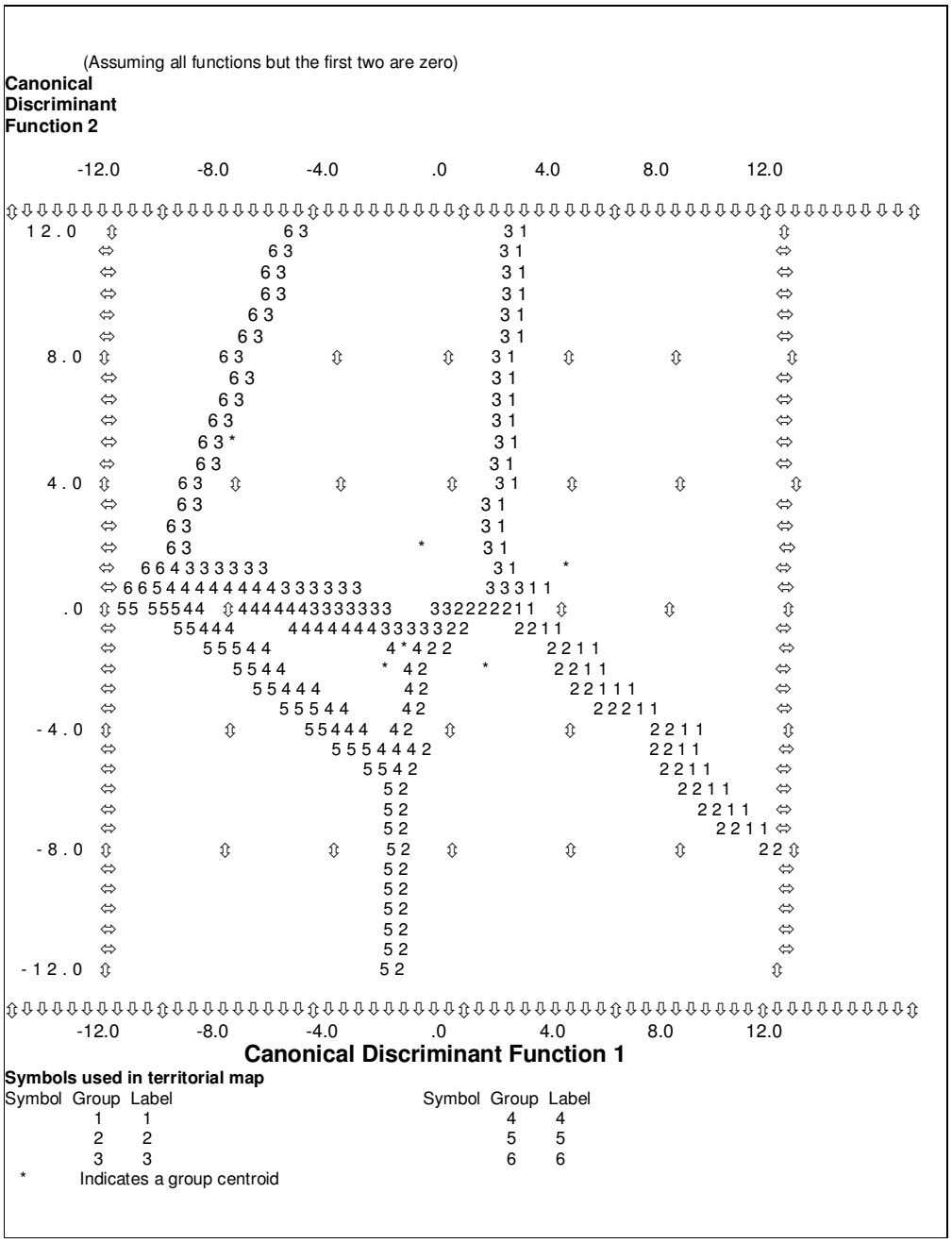


Figure 6-11 Territorial map - cluster formation drivers

The cybercentrism of average elected leader responses for each dimension contributing to discriminant functions 1 and 2 for each cluster is summarised in Table 6-14. Appendix Six, F.6.2 presents the full group statistics for all dimensions across all clusters for both elected and appointed leaders.

Table 6-14 Elected leader cluster cybercentrism dimension levels

Cluster #	% of total cluster sample	Cluster composition Regional/rural:urban (%)	Corporate Structure	Strategic Vision	Market Position	Manage-ment	Employ-ment
1	18.46	20:80	3.1875	4.4025	4.6250	4.6667	4.1042
2	30.77	45:55	2.0375	4.0350	4.4170	4.3500	3.5125
3	24.62	94:6	3.5000	3.2181	3.5413	3.8750	3.1563
4	13.85	89:11	1.8333	2.3144	3.3711	3.7778	2.9444
5	10.77	86:14	2.1786	3.7129	4.000	3.9643	3.0357
6*	1.54	Rural	3.000	1.000	1.000	1.000	3.000

** Only one council resides in this cluster which is extremely geocentric in outlook*

The survey instrument was sufficiently sensitive to identify differences between dimensions within clusters. While a cluster may be described as cybercentric or geocentric overall, the cybercentrism of the various elected leader dimensions driving its formation will be exhibited in varying degrees. The most cybercentric outcomes in the elected leader driver dimensions are exhibited by clusters 1 and 2. Cluster 1 is made up mostly of urban councils. Clusters 3, 4 and 5 are made up mostly of regional/rural councils and become increasingly geocentric in the elected leader driver dimensions. Cluster 2 is the largest of the clusters and has a balanced composition of regional/rural and urban councils.

The Predicted Group membership table (Appendix Six, F.6.4) shows membership of the clusters can be successfully allocated to the correct clusters using the discriminant functions. Discriminant analysis showed a high proportion of the differences between the clusters can be explained in

terms of the cybercentrism framework dimensions. Seventy percent of the differences can be explained by the first two discriminant functions, which are correlated with elected leader cybercentrism dimension levels.

6.4 Discussion

The cybercentrism paradigm of the LDGF was proposed as an enabler of local digital government, facilitating a move from NPM-focused government to digital era governance (*see* Chapter 3 and Chapter 4). The use of the cybercentrism dimensions to categorise TMT leader attitudes towards implementing key management shifts required to provide the environment for local e-government implementation was tested using a pilot survey in 2002, followed by two full surveys in 2003 and 2005.

The results of the survey strategy show the survey instrument was sensitive and robust, providing consistent results at all levels of analysis. It was also confirmed that the dimensions of cybercentrism, adapted for local government can be applied to characterise digital government attitudes and identify any shift over time in these attitudes along a continuum. It was consistent at all levels of analysis from individual leader and council to dimension and council and dimension and ACLG levels.

Differences in the level of dimension cybercentrism were identified between TMT elected and leader groups and between survey years. Cluster analysis showed that councils can be clustered based on their cybercentrism and the clustering effect is broadly divided between regional/rural and urban councils. Importantly, discriminant analysis showed that 70% of this clustering effect is driven by the TMT elected leaders' attitudes. Whilst appointed leaders have operational responsibility, it is the level of cybercentrism of the elected leader which will drive digital government.

All TMT leader groups are operating overall in a cybercentric environment, providing the basis for implementation of local e-government. The trend

over the two survey years was towards increasing cybercentrism, indicating a stable basis has formed for continued progress in this implementation.

However, the 2003 and 2005 cybercentrism maps of TMT leader pair attitudes indicated the cohesively cybercentric grouping of leaders in 2003 had moved in 2005 into a more widely spread grouping, with more pronounced differentiation of councils along the continuum. This indicates the potential for the identification of lead and lag councils in the implementation of local e-government linked to their individual level of cybercentrism.

A link between cybercentrism and the implementation of local digital government context has been proposed. This is evidenced through the level of development of e-government and e-governance e-spaces on council websites and the identification of lead and lag councils in this regard. Chapter 8 examines this link through characterisation of the degree of e-government and e-governance spaces on council websites using the 2003, 2005 and 2007 e-SAT website assessments for the clustered pairs.

Changes in TMT leader attitudes represented on the cybercentrism continuum over a period of time were identified. These individual changes aggregate to changes in the level of cybercentrism between the different dimensions of the framework. These dimensions have trended in a cybercentric direction between 2003 and 2005, however the relative cybercentrism ranking of the dimensions has remained stable. Thus, for example the Trust dimension remained the most cybercentric dimension in both 2003 and 2005 while the Corporate Structure dimension remained the least cybercentric, although the level of cybercentrism had increased.

The survey instrument also identified that changes in the cybercentrism of the various components within dimensions can occur in either direction on a continuum. Thus, whilst it has been shown that the dimensions of the cybercentrism paradigm can be used develop the environment for local

digital government, it has also been shown that development of TMT leader attitudes within this paradigm does not necessarily progress in a linear way. There is a potential disconnect between attitude and implementation, which may depend not only on the degree of commitment of the elected leader, but also on various external and internal factors.

Both elected and appointed leader groups were cybercentric in the Management dimension, acknowledging the integral nature of IT and IS in local government decision-making and the need for computer literate employees.

In the Market Position dimension, councils are reasonably cybercentric, however leader interviews confirmed minimal development of e-commerce strategies and a customer interaction focus still firmly located in the physical rather than virtual environment. Awareness of the need to balance customer expectation and provide customer choice at a basic level was identified, and all elected and appointed leaders saw their councils operating in both the physical and virtual mode in the future to ensure choice for citizens. However, the physical aspect of operation was still identified as the most important, possibly linked to a perception of elected representatives that they must maintain physical contact with constituents.

The study also showed strong cybercentrism in the Competitiveness dimension, encompassing collaboration and participation in projects to achieve mutually beneficial outcomes. This attitude was confirmed in the leader group interviews, however it is apparent the uncritical enthusiasm for collaboration expressed by elected leaders is tempered in their appointed counterparts. Although appointed leaders are aware of the benefits of collaboration, they are also aware of the impact on internal financial and human resources of such initiatives. This reflects the correlation results for this dimension, with the increasing number of collaborative efforts possibly driven by elected leader attitudes. VROC participation, either with all member councils or only specific member councils where projects related to specific areas are not

applicable to all member councils, was identified as an increasingly common and successful collaborative method to provide mutually beneficial outcomes.

This study has shown that local government leaders, particularly elected leaders, still wish to maintain their close relationship with citizens. With the rising unsustainability of many WA councils and pressure from the Local Government Advisory Board for amalgamations to reduce the number of council, VROCs and ROCs may be an acceptable method of providing efficiency without sacrificing autonomy. Similarly, service-sharing and centre of excellence models, based on this willingness to collaborate may provide successful options for council restructure without amalgamation. Implementation of local digital government within the LDGF would enable these collaborative groupings to provide an efficient and cost-effective alternative to amalgamations, while maximising citizen outcomes.

The Strategic Vision dimension, with its aspects of leadership at both political and administrative levels, vision and implementation and was reasonably cybercentric. This study has shown that the balance between political and administrative leadership is becoming well established, laying the foundation for effective management in the digital era. Good alignment was claimed by both elected and appointed leaders, with the personal basis of this alignment, including mutual respect, made explicit.

Appointed leaders appear to be providing the practical and realistic vision to temper the elected leader view of strategic options, as required in this dimension. However, it appears the development of strategic options is constrained by perceived resource limitations, which may impact on the provision of local digital government within the context of citizen expectations.

Similarly, the Employment dimension was shown to be only marginally cybercentric across the cluster. This may be related to the geocentric response across the cluster in the corporate structure dimension. Failure to

implement cybercentric attitudes in this dimension may contribute to the human resource factors perceived as limitations by most appointed leaders interviewed.

Little movement was observed in the Corporate Goals dimension between 2003 and 2005 for either leader group, with both groups remaining marginally cybercentric across the cluster. This was confirmed by interview responses. This dimension encompasses innovation, change management and flexible goals to implement strategic vision, all required to move local government from the physical to the virtual environment. Whilst innovation was acknowledged as a valuable tool for improving services, the theme for most elected and appointed leaders was that councils did not have the capacity to formalise this as part of their planning.

This study has shown that, while the overall cybercentrism of TMT leader groups increased between 2003 and 2005, corresponding to a growth in the level of some e-spaces on council websites, the ranking of the cybercentrism dimensions remained stable in that time. The dimension ranking from least cybercentric to most cybercentric was found to be:

1. Corporate Structure
2. Employment
3. Corporate Goals
4. Market Position
5. Strategic Vision
6. Management
7. Competitiveness
8. Trust

The survey results point to the open system aspect of Western Australian local government, with its potential for shifts in attitudes in both positive and negative directions over time. This may be due to external and internal limiting or facilitating factors such as citizen expectation, human and financial resource capacity, state and federal government requirements and impositions and the degree of alignment between TMT leaders.

Chapters 7 and 9 present information from TMT leader interviews to further explore the attitudes and intent revealed through the survey and website assessment research strategies.

7 THE SURVEY CONTEXT: TMT LEADER INTERVIEWS

The case study interviews were undertaken with the elected and appointed leader of councils providing a survey response in both 2003 and 2005. They supply contextual depth for the data provided from the survey and website strategies. Chapter 10 discusses the outcome of the survey and website strategies based on the cybercentrism framework and the CCDG model including context provided by the case study interviews.

To ensure the provision of focused contextual depth, the interview questions were linked closely to the dimensions of the cybercentrism management paradigm, as shown in Table 7-1 (below). The question number is that of the question in the interview protocol sent to all interviewees (Appendix Four).

Table 7-1 Summary of interview questions related to the dimensions of the cybercentrism framework

Cybercentrism Dimension	Interview questions
Management	3.1-3.2
Corporate Structure	3.3-3.5
Corporate Goals	3.6-3.10
Market Position	3.12-3.16
Competitiveness	3.17-3.19
Employment	3.20-3.22
Strategic Vision	3.23-3.26

Not all questions were answered by all leaders. Elected leaders tended to defer to appointed leaders with respect to many operational questions, exemplified by the elected leader of Case Study 5 council, who commented:

'Yeah. X [CEO] is more the one to talk to about that. One of the things that I'm very kosher about is staying out of the operation. I will deal with X and I talk to all the staff but when it comes down to actual operational nitty gritty then I have to stand back".

7.1 Case study characteristics

7.1.1 Case study councils

A table of the de-identified characteristics of the case study councils is provided below.

Table 7-2 TMT Leader interviews de-identified characteristics

Case Study	Classification	Revenue ($M))	Staff # [1]	Population [2]	Total population Internet use [2]	% pop. Internet use [2]	Interview Benefits
CS1	**UDS** Urban Metropolitan Developed Small	>6<7.5	>40<50	>7,500	4891	>40<60	Low pop., high % with internet use.
CS2	**UDS** Urban Metropolitan Developed Small	>15<25	>150 <200	>25,000	11802	>25<50	High % of pop. with internet use. UDS check for CS1.
CS3	**RSG** Rural Significant Growth	>5<7.5	>30<40	>5,000	2356	>25<40	Moderate % of pop. with internet use, although rural. Significant growth
CS4	**RAM** Rural Agricultural Medium	>5<7.5	>40<50	>4,000	1457	>25<40	Moderate % of pop. with internet use.
CS5	**URS** Urban Regional Town/City Small	>15<25	>125 <150	>17,500	5615	>25<40	"Bridge" LGA classification. Low % of pop. with internet use.

To ensure de-identification, the responses of TMT leaders presented in this chapter are identified by a code related to their case study number only. For example, the TMT leaders for case study 1 council are identified as AL1 (appointed leader) and EL1 (elected leader).

Results are presented for the overall sample of councils and also separately for urban and regional/rural councils (determined by the ACLG code). Extensive quotation is employed to represent the authentic voice of the interviewees.

7.1.2 Post-interview clustering characteristics

To enable generalisation of response, TMT leader interviewees were selected on the basis of a survey response by both leaders in both 2003 and 2005, with no change in those filling the leader roles over that period.

Although survey response in both years and not cluster membership was the basis of the case study selection method, post-interview cluster analysis located all TMT leader pairs interviewed in the second cluster. The composition of the clusters in the dimensions contributing the majority of the clustering effect, identified through discriminant analysis (*see* Section 6.3.7) is shown below. Cluster 2 is the most homogeneous with respect to cluster composition, further strengthening the general applicability of the interview comments to all Western Australian councils. Group statistics for all elected and appointed leader cybercentrism dimensions are presented in Appendix Six, F.6.2.

Table 7-3 Elected leader characteristics for the five cybercentrism dimensions driving clustering

Cluster #	% of total cluster sample	Cluster composition Regional/rural:urban (%)	Corporate Structure	Strategic Vision	Market Position	Management	Employment
1	18.46	20:80	3.1875	4.4025	4.6250	4.6667	4.1042
2	30.77	45:55	2.0375	4.0350	4.4170	4.3500	3.5125
3	24.62	94:6	3.5000	3.2181	3.5413	3.8750	3.1563
4	13.85	89:11	1.8333	2.3144	3.3711	3.7778	2.9444
5	10.77	86:14	2.1786	3.7129	4.000	3.9643	3.0357
6*	1.54	Rural	3.000	1.000	1.000	1.000	3.000

*outlier

Discriminant analysis (*see* Section 6.3.7) showed that elected leaders contributed almost 70% of cluster formation and thus are the drivers of council decision-making. The strategic influence of elected leaders is the main driver for the cybercentrism dimension levels. The operational influence of appointed leaders, by contrast, drives approximately 30% of the cluster formation and is not apparent until late in the discriminant process.

Function 1, accounting for 44.5% of variation in the cluster results was related (in order of strength) to the elected leader cybercentrism dimensions of:

1. Strategic vision
2. Market position.
3. Management.
4. Employment.

Function 2, accounting for 25.1% of the variation in the cluster results was related to the elected leader corporate structure dimension.

Sixteen percent of the cluster formation was attributable to Function 3. This related to appointed leader responses (in order of strength) in the dimensions of:

1. Corporate structure
2. Management
3. Market position
4. Strategic vision
5. Competitiveness

and the elected leader dimensions of:

1. Competitiveness
2. Trust

The weakest effect on cluster formation for both the elected and appointed leaders was exerted through the corporate goals dimension.

Survey response alignment

Overall dimension alignment between all TMT paired in 2003 and 2005 is summarised below. Variance in response for individual questions within the dimension was present either between leader groups or between survey years.

Table 7-4 Cybercentrism dimension alignment between cluster paired response leader groups 2003 and 2005

Dimension	Elected 2003	Appointed 2003	Elected 2005	Appointed 2005
Management	4.11	4.06	4.19	4.01
Corporate Structure	2.38	2.78	2.83	2.81
Corporate Goals	3.74	3.78	3.70	3.78
Market Position	3.87	3.75	3.70	3.70
Competitiveness	4.21	4.28	4.32	4.28
Employment	3.32	3.37	3.27	3.66
Strategic Vision	3.85	3.86	3.83	3.79
Trust	4.50	4.40	4.44	4.52

Western Australian TMT leaders show strong cybercentrism in the dimensions of Management, Competitiveness and Trust. The group is cybercentric to varying extent in all other dimensions except Corporate Structure, which is generally geocentric.

The case study interview process included a discussion of survey response as a mechanism of providing context for shifts in the level of cybercentrism identified overall. Three appointed leaders and one elected leader believed they would give different, generally more cybercentric, responses to some questions if they were resurveyed. This confirms the fluidity present within the changing constraints of local government and the validity of representing this change on a continuum, rather than as an absolute. This also confirms the ability of the survey instrument to demonstrate changes in cybercentrism levels.

7.2 Overview of response

The most common shift in response between 2003 and 2005 was in the Corporate Structure dimension. The overall survey response was mixed, with some apparent flattening of structure between 2003 and 2005. Interviewed elected leaders felt their corporate structure was becoming flatter with more horizontal authority. The view of elected leaders was commonly expressed in the interviews that less staff is the equivalent of a flatter structure (*"The ranger goes straight to the CEO, he doesn't beat around the bloody bush":* EL3). For most of the appointed leaders this has not yet reached the stage of implementing horizontal lines of authority and their councils were still operating in the bureaucratic hierarchical mode. This structural change was not part of a planned restructure, but rather a position reorganisation due to financial restrictions. Only one appointed leader identified a conscious decision to restructure with self-managing teams and horizontal authority lines to improve efficiency and effectiveness. The elected leader for this authority however, believed bureaucracy was the most effective operating mode.

There was a spread of survey response on the question of local government holding all expertise and this was present also in the leader group interview responses. For example, AL2 had moved to a strongly cybercentric position in 2005, from a geocentric position in 2003. This leader felt it was now impossible to have staff expertise in every area. As a result, the use of contractors had risen. Some appointed leaders saw this as a more cost-effective mechanism than employing permanent staff. Others were forced to use contractors, but did not necessarily see this as desirable. AL1 saw the council as a *"training ground"* for larger councils with resultant high turnover, however this was not desirable as new staff were being continually trained *" …. And our members of our* [sic] *public … do notice when there's turnover. And that's why we shouldn't do that."*

EL5 explained a more geocentric attitude towards staff in-house skills development as *"… there has to be the expertise within the employee base to know what [*consultants*] are doing. I don't think we all need to have a governance investigation consultation person on our staff, because you don't need them that much. So when you need them you get in the expertise you need. But you also have to have the staff, you have the knowledge to know when to get in the expertise, to guide."* This view was echoed by AL3 who felt that building internal rather than external expertise gave more flexibility.

Another shift identified was in the degree of collaboration being undertaken to achieve outcomes. The overall response has become more cybercentric between 2003 and 2005. EL3 explained this as having more positive experience of collaboration by 2005 whereas in 2003 this method of achieving outcomes was just being introduced. The appointed leader for this council, classified as rural significant growth, felt it had *"moved to a point of actively looking at opportunities on a regional basis"* and pinpointed the driver for this as the developing synergy between councils in a growing region.

The survey analysis revealed a developing cybercentric attitude towards the amount of input to goal setting considered desirable. This was confirmed in the interviews, with both elected and appointed leaders acknowledging that more debate is appropriate. EL5 commented: *"The best outcome involves more debate. We're on a vertical learning curve."* One element in designing a genuinely flat structure with horizontal authority lines is thus beginning to appear. AL4 identified the "new council" effect on changing policies and goal setting, inexperienced councillors being elected with no understanding of the strategic thinking behind particular policies and goals.

All elected and appointed leaders except one were cybercentric in both 2003 and 2005 with respect to developing strategies for ensuring staff are computer literate, confirming the survey results. Only AL2 had become more geocentric. This was explained as no longer developing specific strategies, but relying on the performance review process to identify opportunities. Although expressing strong cybercentrism towards the importance of incorporating IT and MIS into decision-making, this same leader felt that practically speaking *"we haven't gone down that path yet".* This reveals a split between intent and action.

7.3 TMT leader groups and the cybercentrism dimensions

TMT leader interview results related to the various cybercentrism dimensions of the LDGF are discussed in the following sections. Each section is introduced with a summary of the effect of the dimension on cluster formation and the overall cybercentrism levels of the TMT leader pairs before discussion of the interview responses.

7.3.1 Management Cybercentrism Dimension

Interview questions 3.1-3.2

This dimension has a strong effect on cluster formation, driven by both elected and appointed leader attitudes. Both groups are cybercentric.

Dimension	Elected 2003	Appointed 2003	Elected 2005	Appointed 2005
Management	4.11	4.06	4.19	4.01

The attitude towards the contribution of IT and IS to decision-making and the strategic value of electronic government of the elected and appointed leaders interviewed confirmed the observed cluster cybercentrism level for this dimension

What position do you think IT and IS should have in decision-making within your LGA? Should they be an integral part of decision-making? What do you think is their relative importance?

IT systems were identified as "*integral and becoming more so*" (AL1) by all except AL3, who felt their relative importance was quite low. EL5 confirmed a marked increase in implementation in the previous two years. IT systems were seen more as a strategic tool by elected leaders whereas appointed leaders viewed IT as a management support tool.

Whilst such systems are seen as integral to decision-making, appointed leaders identified various capacity issues with their implementation. AL1 identified a resourcing issue: *"We're good at getting the technology – we just don't have the capacity at present to implement the systems"*.

AL3 indicated there was no prioritisation yet for implementing these systems. However, AL4 saw these systems playing more than a marginal part and pinpointed areas such as planning where IT was considered vital. This leader felt council was generally supportive and *"IT doesn't lose out in the budget prioritisation."*

Elected leaders distinguished between strategic and operational areas when discussing IT and IS systems. In the words of EL2:

> *" It's been an enormous benefit to us in helping us set our strategic decisions [sic]".*

However the same leader went on to discuss the clear divide between administrative decision-making and council decision-making, summing up with: *"I mean all the council is interested in is that the service is being delivered".*

How do you see the development of electronic government in relation to your policy and service delivery planning for your LGA?

AL4 encapsulated the general leader response to this question: *"I think it is very important and I think in 10 years time probably virtually everything will be done that way."* The dichotomy of the strategic and implementation aspects of the development of local e-government was clearly expressed by the leader groups. EL5 asserted e-government would have *"an implicit effect across everything."* indicating the strategic level of elected leader responses. AL5 emphasised that delivering services online is only in the planning phase and not yet part of the policy review process.

Appointed leaders also pointed out the operational issues associated with virtual and digital government, particularly in rural areas, and the necessity of continuing to provide a choice of interaction methods:

> *" … until everyone has got that facility out there and including the ability to have the facility, you know, like broadband and that sort of thing, … it can't be the only way."* (AL4).

AL5 confirmed that *"For us it's more an instrument that you can use that we can add to our arsenal, if you like. But it's just another [*interaction method*] and we're aware of its limitations."*

7.3.2 Corporate Structure Cybercentrism Dimension

Interview questions 3.3-3.5

Elected leader cybercentrism in this dimension dominated the second function in the discriminant analysis, with appointed leader attitudes exerting only a weak effect.

Dimension	Elected 2003	Appointed 2003	Elected 2005	Appointed 2005
Corporate Structure	2.38	2.78	2.83	2.81

Although the elected leader group across the cluster has become less geocentric between 2003 and 2005, both leader groups are still clearly geocentric in this dimension. This is related to the continuing hierarchical operation of local government and a rudimentary performance management focus. The TMT leaders provided clarification for the spread results for this dimension identified in the survey. Some case study councils identified flatter structures. However it was clear this was in response to financial pressures and consisted only of staff reductions, rather than being implemented as the best structure to achieve outcomes.

How does your LGA's organisational structure assist in achieving outcomes for citizens?

Elected leaders wish to maintain the "command and control" nature of a hierarchy but with reduced staff costs, allowing resources to be channelled into the service delivery expected by their constituents. As AL1 put it: *"There is a view among councillors that we need to be more streamlined. The idea is to have less staff costs and more service delivery."*

Instead of operating in the true cybercentric mode of a flatter structure with horizontal authority, most appointed leaders interviewed are dealing with these elected leader pressures by still operating in a hierarchical mode, with vertical authority, but with less staff. AL5 spoke of a deliberate restructure to a flatter format involving self-managed teams (with the introduction of enterprise bargaining agreements) to achieve the outcomes required *"… so you get that horizontal communication rather than vertical".* However EL5 felt these teams still needed to operate in a hierarchical mode because this served the community well. This leader saw a hierarchical management structure as a difference between private

enterprise and government leading to increased accountability and transparency. Only AL2 felt that their flat structure was optimal given the lack of council committees and the management method of significant interaction with councillors.

The negative aspect of councils operating in a hierarchical mode with less staff was identified by AL1 as productive of extra stress on existing staff and reduced time to spend on the "*big picture*" due to a lack of development of horizontal authority. However AL1 identified a perceived benefit of this forced flattening of structure as increased communication and expressed the view that *"… it is not a long way from our customer*". It also meant the appointed leader's management team had a good idea of what was happening at a micro level. EL1 agreed, pointing out perceived cost-efficiency benefits:

> *"I think it just assists, really assists in achieving the outcomes we want. 'Cause without it we wouldn't be able to deliver the outcomes without having to increase staff and stuff".*

This was however identified as a negative by AL3 and AL4, slowing the achievement of long-term outcomes due to a forced reactive rather than proactive approach. While customers get a lot more direct contact with "*hands on*" senior management, this large amount of contact creates substantial pressure. In the words of AL3: "*While we're doing that it isn't enabling us to achieve long-term outcomes"*. This leader made it clear that this was not sustainable in the long-term.

AL4 made it clear the council only had a flat structure because "*it is our current situation*", not because it was the best way to achieve outcomes. This council seems to have imposed financial restrictions which have forced the appointed leader to reduce staff, whilst still operating hierarchically. AL4 considered this was not optimal, but both AL4 and EL4 made it clear this was reviewed each year.

Do you think your organisational structure lends itself to a higher level of accountability? If so how? Is this an important area for local government?

Although it was clear the case study councils were operating with a geocentric focus in a cybercentric environment, it was also clear that a cybercentric performance management focus is developing. This was seen by AL1 as a direct result of an "… *incredible amount of accountability requirements*" placed on the council by government and ratepayers. EL1 saw it as giving more flexibility and accountability to staff at all levels*, " … which is a good thing as far as staff morale goes. Treat them like mushrooms and they will act like them"*.

The need for high levels of accountability was identified as important for all local governments. AL1 expressed this as "*You have one council that craps on itself and everyone suffers*". This view is reinforced by the recent Corruption and Crime Commission investigations into the Western Australian local governments of the cities of Bunbury, Cockburn and Wanneroo and the related activities of lobbyists and State Government representatives. AL4 agreed there was a higher level of accountability in that council, but attributed this to an NPM focus on having the right checks in place rather than being an outcome of organisational structure. This leader also commented that: *" … the bigger the place means less accountability there is*".

The use of communication as a method of increasing accountability was also a theme raised by both elected and appointed leaders. It is possible development of the website e-spaces could enhance the cybercentrism of this dimension for councils and strengthen accountability.

Does your LGA have a strong management focus? Could you tell me about this process?

All leaders spoke of a strong management focus, although the degree varied through structured meetings and consensual decision-making to defined interaction. In the words of EL1, this focus was necessary for "*managing for correct outcomes*" and the pursuit of consistency was the driver. This council's appointed leader "*has had an efficiency and effectiveness focus from day one"* with "*Staff … on performance bonus system, linked to achievement of strategic goals … the whole focus is on performance and they get bonuses for achieving goals*".

AL3 emphasised that the management focus was very much on decision-making and putting forward ideas *"as a group".* Customer knowledge and the impact on existing resources were important elements in reaching a decision. AL5 referred to this as a *"judgement-based"* focus in areas other than those with specific guidelines such as planning and building. This approach was justified by a belief that *" … smaller local governments generally have a very high awareness of what issues are with their communities"* and that the use of MIS indicators only develops when there's a big gap between those generating the information and those using it. AL4 confirmed this view: *"We do have a strong focus but we also have a collaborative focus I suppose. I won't only discuss things to do with town planning with the manager of planning."* This leader also sees value in being a small council in that *" … you're talking every day about things."*

For appointed leaders, lack of sustainability in moving towards cybercentrism due to resource limitations was a recurring theme. This operational focus was not a theme for elected leaders, as shown in the territorial map associated with the survey analysis (*see* Figure 6-11). Whilst operating with less staff, the viewpoint of the elected and appointed leaders was still hierarchical and bureaucratic. EL5 identified this operational mode as necessary from an accountability perspective.

> "*I think one good thing is the difference between private enterprise and local government, there has to be some accountability, and sometimes the only way to get that is through a hierarchical structure. … at this point in this city's development the hierarchical structure services the needs of the community well because there is*

a distinction in responsibilities and there is a reporting line and there's an accountability. I think it serves well".

AL5 noted that their council had implemented the Australian Business Excellence Framework (ABEF) between 2003 and 2005 and that this had contributed to the increased cybercentrism of their response between 2003 and 2005.

7.3.3 Corporate Goals Cybercentrism Dimension

Interview questions 3.6-3.10

This dimension exerted the weakest effect on cluster formation for both the elected and appointed leaders. Little movement was observed in this dimension between 2003 and 2005 for either leader group, with both groups remaining marginally cybercentric across the cluster. This dimension encompasses innovation, change management and flexible goals to implement strategic vision. Interview responses confirmed the weakness of this dimension.

Dimension	Elected 2003	Appointed 2003	Elected 2005	Appointed 2005
Corporate Goals	3.74	3.78	3.70	3.78

An awareness of the need to increase knowledge-sharing efforts and a realisation of the importance of review of business processes is becoming apparent. However, while there is an emerging awareness of the need for innovation and business process review, this is not well developed and is resource-constrained. Goals and objectives also tend not to be revisited outside the annual review process and structured knowledge management strategies to facilitate information flow are not widely evidenced.

Briefly, how does your LGA arrive at its goals and objectives? How flexible are these? How are they communicated to your stakeholders and what input do they have? What are the benefits for your LGA of this process?

EL1 identified the importance of council's community satisfaction research, which was echoed by other elected and appointed leaders: *" … we test all the time and that helps us understand whether we, what we need to focus on, what we need to hold on but not drop the ball"*. Overwhelmingly, these leaders use community surveys and a five year planning cycle with annual reviews. CS5 had both a strategic and corporate plan, while CS3 was developing a 10-15 year financial plan with councillors. Community consultation was becoming a significant input to these plans. AL3 commented this is often "*not well attended*". Development of the e-consultation space on council websites was identified by both appointed and elected leaders as a potential method of gaining wider consultation input. In the words of AL3: *"We are heading towards using e-consultation on the website as one of the methods of getting a sample"*. This leader identified this use of the website as part of being able to offer citizens a choice in communication and consultation methods, which was a common theme for all appointed and elected leaders.

AL2 raised the issue of *channel of choice* in the context of a recent town planning scheme review. *"We had workshops, we had different forums, we had online, we had all sorts of things…and we tapped into people that you don't normally tap into and that was very good".*

EL5 expressed the strategic view of all elected leaders interviewed that while the process was considered flexible: *"Councillors set the direction and the officers will go away and put something together and then they come back. And the councillors might draw a line through that and do something else and the officers go, okay".*

Does management see value for citizens and customers in innovation? If so, how is this fostered? Do citizens have a role?

Whilst innovation was acknowledged as a valuable tool for improving services, the theme for most elected and appointed leaders was that

councils did not have the capacity to formalise this as part of their planning. EL1 expressed this as:

> *"Well, we always want to see if we can do it better, differently. But innovation sometimes, you can have innovation for innovation sake and it doesn't deliver the outcomes you want. But yeah, we're always willing to listen, to hear what people have to say. If it's well worth it we'll look at it, otherwise it's not where we're going to be".*

However the appointed leader for this council explained there is a formal process incorporated into each staff member's balanced scorecard assessment for registering the number of *"new ideas"* generated.

AL3 acknowledged an *ad hoc* approach where input may come from councillors (as community representatives), but "*at the moment it's more about us as staff doing it."* However, a quarterly process was in place whereby staff were encouraged to contribute innovative ideas, but this had not produced much so far. This leader saw the relatively small size of the council as a benefit to implementing innovation. AL4 identified the community as an important factor in the innovation process.

EL5 pinpointed the constraints on local government in this area and the apparent conflict between attitude and implementation in many areas: *"There is value in innovation, though we are probably busy doing a job. So there is a recognised value, however, we're all head down, tail up."* EL2 identified the importance of innovation along with best practice: *"Part of the duties of our administration should be to deliver both. Advise us of best practice … and in turn … innovative ways to arrive at best practice."*

AL2 pointed to the involvement of precinct groups to provide input, however this was not felt to be entirely representative *"… so you're not getting the wider community, and every now and then the precinct groups get it wrong".* AL1 utilised a *"virtual reference group"* among other techniques to encourage community involvement.

Do you see internal information flows and knowledge management as important for your LGA? What about external information flows and knowledge management?

All leaders were supportive of external information flows between VROC and collaboration partners, although for most this is not at the stage where formal systems are in place for external sharing of information. In the words of AL3: *"At this stage it is important but informal".* EL5 expressed the cybercentric view that hoarding of information as a power mechanism is undesirable but still occurs in local government and agreed that the "silo mentality" tended to be reinforced in bureaucracies.

Both the AL5 and EL5 pointed to their well-developed intranet as an important internal mechanism for sharing information and managing knowledge. This council had also developed an internal customer complaint tracking system which it was considering extending to the website for external use and was also developing an e-newsletter facility.

Do you see any benefits from sharing information and knowledge with other LGAs and if you do, could you elaborate please?

All leaders emphasised the growing importance of sharing information and knowledge. AL3 expressed the common response as: *"It's always been about we're all in the same business. We don't want to be reinventing the wheel".* This sharing of knowledge can involve both formal collaborative projects and also informal collaboration through such initiatives as sharing policy development.

The importance of the relationship between local government authorities was identified in this context by EL5: *"With our local governments surrounding us here, we've shared quite a bit of different policy development with them. … So that can be achieved so easily with an*

open, honest relationship." The customer benefit of less frustration was identified by this council's appointed leader.

While EL2 commented: *"I have no qualms in asking my colleagues … what they're doing in this particular area. What I get out of that is what they're doing and I'll better it"*, AL2 was aware of the operational impacts of such collaborations and was cautious in using them without thorough investigation of the proposed outcomes and benefits of the collaboration. AL1 also identified the importance of personalities in determining the degree of collaboration undertaken through the local ROC.

Do you see value in regularly reviewing your business processes? If so, how often do you do this?

Most councils had not formally mapped their business processes, although their leaders saw value in this. AL4 voiced a common appointed leader theme that lack of staff and resulting time contraints were an inhibitor: *" … we need to do more of that, and if we had the time … [we could] do more of that sort of thing. But to do that we need additional staff".*

AL2 also identified the possibility of too much review with additional stress on limited staff resources:

> *"Sometimes they're in that much of a review that you never get anything done and you think, well, hang on. … You know, if you looked at stress factors and things like that, if you're constantly under review, your stress factors are fairly high and it's just bad management, you know, people say well why are all the planners leaving?"*

Many leaders identified business process review taking place as part of the review of business units or as something individual managers undertook except in statutory areas such as planning. CS5 used an external consultant for this. However, AL1 commented that outsourcing this had not worked well as it was based on an outside view and staff did not own the

outcomes: *"… we actually got something that was difficult to maintain. So now it's used as an orientation tool".*

Briefly, how do you monitor the implementation of your strategies and goals? How regular is this monitoring?

For all councils, monitoring was via a regular meeting structure on a weekly or bi-weekly basis with annual review. There were no specific regular meetings to monitor project progress, which was included in senior management meeting agendas and appointed leader review processes. Key performance indicators were not widely used, the feeling being that in small councils lag indicators were sufficient, colourfully expressed by AL1: *"If you need an indicator to tell you your bum's on fire …".* This was reinforced by AL5's view that *"… it will come to a certain extent. It depends - you may end up spending too much time recording the stuff and not enough time doing it."*

AL4 stated that strategic goals did not necessarily have associated key performance indicators, but senior management meetings reported on assigned performance indicators. This council also participated in benchmarking programs to monitor progress relative to other councils. CS2 has a formal reporting process for quarterly reporting to council accompanied by the action item detailing progress. This took the form of a snapshot of progress for council. However, a disadvantage of this was identified by AL2 as: *" … you see* [councillors] *slack. You know they don't read it some of the time, or some of them don't."*

7.3.4 Market Position Cybercentrism Dimension

Interview questions 3.12-3.16

This dimension affects cluster formation, with elected leader attitudes contributing more strongly than appointed leader attitudes. Councils across the cluster are operating in a reasonably cybercentric mode. The leader interviews however confirm minimal development of e-commerce

strategies and a customer interaction focus still firmly located in the physical rather than virtual environment. Awareness of the need to balance customer expectation and provide customer choice at a basic level is identified.

Dimension	Elected 2003	Appointed 2003	Elected 2005	Appointed 2005
Market Position	3.87	3.75	3.70	3.70

All elected and appointed leaders saw their councils operating in both the physical and virtual mode in the future to ensure choice for citizens. However, the physical aspect is still most important, possibly linked to the need for elected representatives to maintain physical contact with constituents.

The importance of customer focus is acknowledged, including the need for multiple channels for interaction, but specific customer relationship/citizen relationship strategies are not common. Citizen engagement is developing, however leaders acknowledge expectation must be managed within financial and human resource constraints.

How do you see your LGA operating now and in the future? Will it be in a physical environment only, or a virtual one or some combination of the two? What do you see as the benefits of this chosen method of operation for your citizens and customers? Will you be looking to pursue e-commerce relationships with your suppliers and customers? If so, why?

EL4 expressed a common elected leader response to this question:

> *"I think it probably will go more online. I know the, just bringing the payment option in has meant a lot of people don't, before on rate day everyone was lined up in the carpark. Now it's not like that at all. …I think it's better, it saves a lot of time."*

While AL4 agreed that a lot more of the environment would be online in future as a result of "generational change", the point was made that the physical presence was necessary so customers felt comfortable to come and talk face to face.

> *'*[*People] are always going to want to be able to walk into somewhere, have a go at somebody … the amount of queries we take here, enquiries and that that are state and federal government issues is huge. But where else are they going to go? …so I think it's going to be a combination …*"

EL3 saw an increasing need for an online presence to meet the expectations of the current generation as they matured.

According to EL2, elected leaders needed to be visible in the community and always available for people to talk to. This view was reinforced by AL2, who felt that although a lot more of the environment would be online, citizens must still feel comfortable to come and talk face-to-face. This leader felt the benefits of increased local e-government included "*less customer hassling*"; instant access to information and freeing existing resources for staff to do other things. However, the need to spend time to plan to get long-term advantage was identified and this was thought to be potentially difficult to achieve given the previously identified resource constraints.

The option of interacting online was seen by EL5 as providing choice for citizens, whereas the provision of e-commerce facilities was*" just good business sense*". This view was confirmed by AL5, with the caveat that one type of contact would not erase the other and demographics would be an important basis for implementing any shift. Whilst sectors of this community were well-connected to IT and computer literate others were not and until this was more widespread the council would maintain a physical face while gradually developing interactive e-spaces.

How important is it to your LGA to develop a customer focus? What elements does this incorporate in your view?

All leaders identified a cybercentric attitude towards the importance of a strong customer focus. This attitude involved elements of relationship-building and active solicitation of feedback, expressed by AL1 as: *"So there's a whole mixture of it and everyone is, from elected members to staff, really do have a commitment to delivering service to the residents."*

Customer focus elements identified by leaders included:

1. Ward/precinct meetings
2. Face to face contact with front counter staff
3. Website
4. Customer charter (developed with community input to ensure alignment)
5. Availability of senior staff to listen to customers
6. Consultation
7. Cost-effective service provision
8. Knowing the customers through living in the community

AL3 commented that the council had developed a customer charter (also raised by AL2). This had been developed with community input to ensure alignment, and the common theme was expressed that *"If you're not aligned, it just gives extra pressure and you're just putting out fires"*. The customer charter was seen as an important way of developing customer focus. The timely availability of senior staff to the customer was seen as very important.

AL4 saw the council as very customer-focused because of the amount of consultation undertaken. *"I think there is a difference between small and bigger communities … in the country you find it's more personal."* EL5 summed it up as *"It's keeping the finger on the pulse of what the community wants. One of the changing trends has been that the community no longer sees the local government authority as being roads, rates and rubbish."*

Who do you see as your customers? How important to your LGA is customer relationship management? How are you addressing this?

The customer was most often identified by elected members in politically-focused terms as the resident, encapsulated in EL1's reply: *"Well, anyone that's resident … it's mainly to the residents whether they be business or private. They're the whole existence of us being here, so they're the most important. After that comes the suppliers but these days it's changed because everything is pretty fluid and dynamic in the delivery of service to councils".* EL3 stated this bluntly: *"Customers, that's the bloody ratepayers. It's a community".* EL4 considered it also included the people who owned property in the local government area. EL5 however expressed a wider view of the customer: *"Everyone. … Whoever they are, if you're dealing with them they are your customers…. you have to treat everyone as an internal/external customer".*

Appointed leaders tended to have a wider operationally-focused view of the customer. AL5 identified the customer group as extremely broad, including government, business, residents, ratepayers, other local governments. Councillors were included in this group, although EL5 felt staff did not see councillors as customers. AL3 felt the customer equalled the local community and therefore this was a big list, including *"Whoever is involved to get the business done."* This leader identified external customers as including government institutions, organisations, business associations and other councils and suggested that to call someone a customer has a "provide a service" implication. AL4 included visitors and tourists in this group, while EL4 identified only ratepayers and property-owners as customers. This area has a large number of absentee owners and the elected leader identified the website as an empowerment tool for these owners to participate in their community.

Customer relationship management was seen as very important, but efforts were still largely focused on the physical environment through the

provision of staff customer service training and development of customer management processes and customer service charters. No council was providing public access to customer relationship management systems at that time, although CS2 indicated it was preparing to introduce development application tracking for customers.

All leaders were familiar with and used their local portal if such a portal existed. This is discussed further in Chapter 9 in the context of the e-SAT analysis of local government websites. Rural leaders were more inclined to leave online citizen relationship management to be developed via rural community portals rather than do so on their own websites. EL5 felt this:

> *"actually gives that little bit of separation from the local government, so you get a different type of response. Quite often people that come onto a local government website are just there to have a whinge. By going onto that portal you're getting all sorts of people … as well as the harder hitting questions."*

Most councils had citizen payment sections on their websites. CS5 particularly utilised online feedback forms for customer contact. EL5 saw the development of e-commerce relationships with suppliers as a future focus and a customer expectation it was council's duty to meet. This leader introduced the concept of the need for critical mass before developing online services and did not think the council had achieved this.

How important is it to your LGA to continually improve services to your citizens and customers? How do you review these?

All council leaders professed the importance of improving services. Although each emphasised the link to the strategic plan and its annual review in the context of budget planning, no formal mechanism was identified for this process. Informal mechanisms based on feedback were seen as working more quickly. The mechanism of rolling reviews of business units was also cited as leading to improvement.

Briefly, how do you decide what citizens and customers need?

As discussed above, these decisions are based in the main on:

1. Informal feeback ("what's happening in the community");
2. Complaints analysis;
3. Survey;
4. Use of demographics to predict needs; and
5. General requests.

EL4 identified the customer satisfaction survey as something that could be placed on the website.

7.3.5 Competitiveness Cybercentrism Dimension

Interview questions 3.17-3.19

This dimension has a weak effect on cluster formation, driven by appointed and elected leader attitudes, which are consistently cybercentric across the cluster. It encompasses collaboration and participation in projects to achieve mutually beneficial outcomes. This attitude was confirmed by leader group interview responses, however the uncritical enthusiasm for collaboration expressed by elected leaders was tempered in their appointed counterparts. This reflects the correlation results for this dimension, with the increasing collaborative efforts identified in the interviews possibly driven by elected leader attitudes. .

Dimension	Elected 2003	Appointed 2003	Elected 2005	Appointed 2005
Competitiveness	4.21	4.28	4.32	4.28

VROC participation, either with all member councils or only specific member councils where projects related to specific areas not applicable to all member councils, was identified as an increasingly common and successful collaborative method to provide mutually beneficial outcomes.

Does your LGA join with other LGAs in undertaking projects? If so, is this on a local and/or regional basis? What benefits do you see in this collaboration? What drawbacks?

Council leaders did not feel any autonomy was surrendered in the collaboration process. EL1 stated:

> *"I think we've gained because we're able to get an outcome that will deliver yet another service or a better outcome to the community. I never feel threatened because it just keeps us on top of the pile."*

Rural council leaders identified the community outcome basis of these collaborations: *"*[they're] *not about goods, they're about service or outcomes for the community"* and their particular importance for small councils. In this context however, rural appointed leaders discussed the potential disadvantages of having a regional group of councils with a range of demographic makeup. The feeling was that this collaboration worked well with the smaller councils in the region, but *" … it is a struggle to get one of the councils in this group involved because they "feel they're big enough to go it alone" (AL3).* This view was echoed by EL3 and AL4 *"[Regional Centre], you know, they like to do their own thing."*

On the other hand EL5 felt participation in collaborative projects with other councils had increased "exponentially", underpinned by trust relationships built up with key stakeholders in the region. AL5 commented that participating in these collaborative groups was more efficient and made them more effective. However, one of the drawbacks for this council is that they're seen as the "big brother" and are expected to give a lot to the relationship, whilst not getting a lot in return. *"So sometimes the synergy is just not there but we stay there because we provide support for them."* Potential political disadvantages were identified by this leader: "*Sometimes you get caught in the crossfire when one member of the group decides to take unilateral action on behalf of the group without their knowledge."*

How do you view your LGA's level of investment in information and communications technology? Is it adequate? Are there limitations to your ability to implement what you think you require?

Financial and human resource restrictions were evident across the board. Although councils acknowledged the importance of IT, it was necessary to balance this with other budget claims.

EL1 spoke of the decision to insource IT after initially outsourcing this function and identified a cost-efficiency benefit:

> *"The only limitation is the amount of money we have available to keep going. … So council always backs this because it delivers us an outcome, but if we didn't keep abreast of it we'd fall behind. So we know we're spending money but it's money that allows us to deliver productivity and outcomes through staff being able to work better."*

However, an urban-rural split was obvious here. AL1 confirmed EL1's comment and speculated that council may be over-investing in ICT, but thought they would probably do more. Similarly, AL2 felt investment was adequate and delivering value. Rural appointed leaders however identified financial restrictions, expressed by AL3 as: *"The limitations are the dollars".* This leader identified the necessity of developing a 5-year IT strategic plan to guide investment. Whilst the IT was adequate for current need, with imminent expansion came the need to plan for expanded IT. However, council was supportive of this expenditure if planned.

The resource constraints were reinforced by EL5 who spoke of budgeting through reserves for software upgrades. *"I think for where our organisation is at the moment, we're surviving. But if you had an open cheque book you could do so much more. So we live within our means with what we've got."* AL4 also identified the lack of local expertise as a limiting factor for a rural council, with the necessity to travel long distances for advice.

Do you see any value in working with other public sector agencies to deliver local government? Does this form part of your planning for e-government? Is it a significant part?

There was some caution around participation in these types of partnerships on a regular basis. Local government in Western Australia has often been funded by state government to offer services, only to have that funding withdrawn a short time thereafter, while the community expectation of the service provision remains.

Expressing the conflict which can arise in managing citizen expectation within the constraints of small councils, EL1 commented:

> *:"… being a smallish community we're always looking to make sure that if there's some money going around that will help us keep delivering the outcomes, then do it. But we don't try to expand it beyond our means".*

This leader confirmed the potential of providing public sector services for citizens through linking to a public sector website from the LGA website. AL1 acknowledged the importance of linking with other agencies, but confirmed that the council had not actively done so thus far while considering this may be more necessary in the future to deliver e-government

EL5 saw value in working with other public sector agencies to deliver outcomes which could not have been achieved otherwise, but described the process as *"a pain*". State government seeding programs, where initial funding is not continued, had an acknowledged impact. AL5 spoke of a memorandum of understanding signed recently with the state government, the second in the state and the first in a regional area. However, it was pointed out that this took two and a half years of work to achieve.

Rural appointed leaders confirmed a cautious, core services approach: *"It quite often creates more work, but there is value. …* [you] *have to ask "is that part of our core services?" (AL3).* If it is, and is of benefit to the

community, this council would look at partnership opportunities. However, it was not significant at the moment and whilst it may expand with council growth, it would only do so in the context of the core services question.

7.3.6 Employment Cybercentrism Dimension

Interview questions 3.20-3.22

This dimension has a weak initial cluster formation effect, driven by elected leader attitudes. This dimension can be seen to be only marginally cybercentric across the cluster, possibly related to the geocentric response across the cluster in the corporate structure dimension.

Dimension	Elected 2003	Appointed 2003	Elected 2005	Appointed 2005
Employment	3.32	3.37	3.27	3.66

Generally, councils are moving towards a mixed mode of employment with contract workers and consultants supplementing permanent staff. This is clearly driven by cost-efficiency requirements and a realisation that it is not feasible to hold all skills in-house. However the development of the necessary ICT skills, resourcing constraints and the importance of producing outcomes which can be "owned" by staff and citizens are dictating the pace of this implementation.

Does your LGA develop all the skills it needs in-house, or do you prefer to outsource to contact workers and consultancies or use some mix of these? Why has the method used been chosen?

It was acknowledged that from a cost-efficiency view all the necessary expertise can no longer be held in-house. While EL3 commented that: *"Council is very strong against consultants"* as they cost too much, AL3 felt that from an operational perspective and in the context of resource constraints a mix was needed and more ownership to achieve the required outcomes was required.

AL1 drew a distinction between expertise and information: *"I don't think you can hold all the necessary expertise amongst employees. I think we need to hold all the necessary information within the organisation."* These themes were echoed by other leaders who stressed the importance of ownership of outcomes through use of in-house expertise, but acknowledged that it was not realistic or feasible to develop all skills in house. People with particular expertise were used when necessary (e.g. for sports needs reviews) with in-house development supported by consultancies for projects where the expertise is not needed every year. *"We need to develop skills for things that need to be done a lot, not things that are one-offs such as major reviews" (AL4).*

It was acknowledged that a consultant often brings different views which may help the process, but these need to work for the local area. The perceived independence of consultants was also seen as a benefit which may make the community more accepting of recommendations. As EL5 commented, a pragmatic approach is being used:

> *" … like at the moment if we said we need to put on another full time website builder we'd just go, yeah right. You know, stand at the end of the queue because we need an economic development officer, we've got a* [location] *redevelopment. But the time will come when that goes to the top of the list and then it will happen".*

Do you see working here as lifetime employment for your employees? What are the benefits of this for your employees and your citizens?

There was a uniform response to this question from appointed and elected leaders, expressed by EL1: *"They will move on. Being a flat organisation, the very good ones will always move on. … you just can't keep them beyond a certain level".* Although this leader considers the reason to be a flattened organisational structure, it could also be that reduced staff numbers place pressure on existing staff, which means they move on when an opportunity presents itself. This leader identified multi-skilling as an attraction because it made the person more valuable to other employers. A benefit to citizens also accrued due to turnover of ideas. *"But*

I think it gives us something for the community that always, new ideas, new ways of doing things, they're more likely to tackle new innovations wholeheartedly than well-entrenched people".

This view was reinforced by other urban elected leaders. EL2 saw a benefit to citizens in keeping staff with the organisation and providing a stimulating environment, but turnover was acceptable.

AL3 identified the rising importance of corporate knowledge systems in this context. This leader also pointed out that lifetime employment with one local government was less and less the norm, although some councillors still saw it as an option for staff. This leader reinforced the common response that new staff brought new ideas, however the downside was the potential loss of corporate knowledge. EL3 confirmed a previously high turnover for this council, which had decreased under the current appointed leader and was attributed to a better alignment between council and administration.

Another issued, raised by AL4, was the level of accountability if staff stay only two to four years. This leader felt stability in the workforce was important, although the reality was that this no longer necessarily encompassed lifetime employment.

The undesirability of "seat warmers" was also raised by EL5 (with experience of giving out 20, 25, 30 year service certificates) stating:

> *"Sons will come and work with their fathers … I think they get into a niche that's very comfortable … while they're still producing, although there are always seat warmers in every organisation, while they are still producing …"*

This leader also identified a potential detriment to communities through amalgamation reducing staff numbers: *"And this stuff with amalgamation scares me silly because the first thing they want to do is sack all of the staff".*

Do all your managers have information and communication technology skills, or is this centralised in one person or area in your LGA, or is it outsourced? Do you intend to build any further capacity in this area? Why? How will you do this?

Overall, there was a range of response to this question. Whilst rural councils generally had few formalised reporting systems, leaders felt most staff and councillors were comfortable with using IT to differing degrees. However AL3 commented that whilst there was currently no centralised IT section, there was a probability of developing such a section to assist with future expansion. It was stressed that this would be managed and controlled in-house through a combination of staff and external service providers.

EL5 commented that they were all very "e-literate", although the need to use the systems was accepted to varying degrees by councillors. *"Everyone is very comfortable with the method of e-communication."* This included all councillors also, bar one, who still uses it *" … just grumbles a lot".* It was suggested by AL4 that there was a *"lack of skills throughout the whole industry, not just this council."* This leader identified the necessity of training to build capacity and suggested it would be beneficial for all councils to be using the same systems.

7.3.7 Strategic Vision

Interview questions 3.23-3.26

This dimension has a strong effect on cluster formation, driven by elected leader attitudes. The elected response has the strongest positive correlation of all components with the first discriminant function. The appointed response has a weaker and negative correlation with the lesser 3rd discriminant function. It can be said therefore that the elected leader vision drives strategic option formulation.

The strategic vision dimension, with its aspects of vision and implementation and leadership at both political and administrative levels was reasonably cybercentric. The balance between political and administrative leadership is developing, with good alignment claimed by both elected and appointed leaders. The personal basis of this alignment was noted, with mutual respect an important aspect. Appointed leaders appear to be providing the practical and realistic vision to temper the elected leader view of strategic options, as required in this dimension. However, development of a wide range of strategic options is limited by perceived financial and human constraints.

Dimension	Elected 2003	Appointed 2003	Elected 2005	Appointed 2005
Strategic Vision	3.85	3.86	3.83	3.79

A common theme was delivering community expectations within the human and financial constraints experienced by councils. Councils are still operating within a limited set of strategic options and have not yet found the balance between political leadership and administrative simplicity. However, practical strategic planning is developing with the formulation of corporate and financial plans and an acknowledgement of the contribution of innovation and effective change management to producing strategic benefits.

How wide a range of options do you consider in defining your LGA's strategic vision? Where do these options come from and who takes part in the process of defining and considering them? Are there any limiting factors? What or who are the key drivers in formulating this strategic vision?

Whilst citizens, councillors and information reports were identified as the source of inputs by all leaders, a common theme in answering this

question was financial constraints: *"The community has a huge expectation of what they would like and you have to scale it down into what you can afford" (EL5)*.

All leaders identified community input and survey reports as the main driver, although AL3 identified the difficulty of getting this input as a limitation. EL5 suggested this was *"really a tripartite partnership* [community, staff and councillors] *that has to work together. Cause it's no good any one* [group] *coming up with this vision, it has to be balanced."* EL3 described the process for that council as administration developing the proposal which was then driven by council and administration before community comment was invited.

AL4 raised the issues of state government cost-shifting where local government is funded to set up a service and the funding is then withdrawn as both a driver and a limiting factor, although the main driver was the community. In this context, AL1 commented that the council's strategic outlook also included the state government agenda for local government.

How do you see the balance between political leadership and administrative leadership in your LGA? Is this a productive relationship for the citizen and customers? How do you assess this?

Both urban and appointed leaders felt there was good alignment between the two types of leadership and that this led to a productive outcome. This echoes the overall congruence of survey response. However, there are individual differences between the cybercentrism of response to the questions making up this dimension. Whist both elected and appointed leaders were aligned in exhibiting a cybercentric attitude in this dimension, this may not be an accurate reflection of the actual balance between the leadership roles, as indicated particularly by EL4. Whilst the roles are understood, elected leaders perceive themselves as the dominant partner in the relationship.

AL3 has a good working relationship with the elected leader and commented: *"It's a matter of understanding the roles … Council understand they're looking at the bigger picture and understanding of the community".* EL4 identified the slowness of staff to adjust to a shift in composition of council, and commented:

> *"I think we're not too bad … we can do better though … there's been a little bit of shift in composition of council over the last 4 years and I think, well my reading of it is, the staff have been a little bit slow to [respond]. …It is a big shift. But … the community have … voted and said well that's the way we want to go. And I think we've been a little bit slow to change the administration side … And I think part of that is the lack of experience of the new councillors in knowing how far to push the administration. … And then there's the government policies and all the rest of that sitting over that."*

Interestingly, the appointed leader for this council felt that *" … from the start the administration's point of view and elected members' point of view I think, there's no issues."*

EL5 identified the appointed and elected leader thinking alike as positive. *"Both professional … It's been a really well balanced relationship and has been critical to the success* [of council's projects]*… "* Having the same ethos and same principle-centred leadership was identified as a success factor.

Do you feel the vision of Administration and Council is well aligned?

The overall response to this question was that administration and council were well aligned. EL4 felt alignment was acceptable but could be better. EL3 stressed the value of a CEO council could work with and cited the level of communication as a factor in good alignment of vision. This leader also raised a high level of council endorsement of administration reports at council meetings as evidence of alignment.

EL1 reinforced the necessity of communication and the choice of appointed leader: *"… a good CEO and being able to work together cohesively and respecting each other's abilities."* However, while AL1

agreed the vision had always been well aligned, *" … it's not been without its conflicts"*. AL2 commented that good alignment was due to a lot of communication, input, reporting and feedback. EL5 reiterated the importance of mutual respect and support in achieving council's vision:*" … because* [AL5] *has the administrative backing to run what needs to be done and I have the political clout to obtain what needs to be had to do it."* AL3 noted that alignment is reflected at council meetings. For this council, 95% of staff recommendations go through without change or with only minor changes.

EL2 felt alignment was good because both groups were *"working from the same assumptions".* This leader tells staff the vision directly:

> *"Why not say, this is my vision,* [CEO]*? That's why I'm elected, to give my vision. How does that conflict with you as a management team? Don't let them intuit it.… vision of the elected member should coincide and be the same as that of the administration. Because if it isn't we'll have conflict and then the whole thing will become dysfunctional. … remember they are paid administrators, visionaries are the elected … we've got the vision and the paid administrators can help us fulfil the vision and implement it."*

How important is change management in your LGA? Which levels of the organisation drive change? Who are your change agents?

Most leaders responded that change was driven by any level of the organisation and the opportunity of being a change agent was open to all staff. However, while the rhetoric was common, this does not seem to be the case from the practical perspective. AL5 indicated that while people were encouraged to make changes at any level and this was part of the corporate values, it was difficult to quantify how much change had been driven bottom up as opposed to top down. This leader felt it probably was driven more top down, although EL5 stated that change management was driven at all levels.

For AL2, who self-identified as not being a supporter of constant change, this occurred mainly at the operational management level. Similarly, AL3

also identified change in that council as being managed through the senior management level, as ultimately *"it's the CEO's responsibility to drive change".* This leader found the council's change management to be reactive and identified the need to make it proactive by taking managers out of the day-to-day. However, this was not feasible as extra staff and an increased resource allocation would be necessary. This leader, whose cybercentrism increased between 2003 and 2005, felt more staff were necessary so managers could focus on looking 5-10 years ahead, *"not operational stuff",* indicating again a potential conflict between intent and action.

7.4 Trust

Interview questions 2.1-2.4

Elected leader attitudes towards trust exert a very weak influence on cluster formation, as both elected and appointed leader groups in the cluster are strongly cybercentric in this dimension.

Dimension	Elected 2003	Appointed 2003	Elected 2005	Appointed 2005
Trust	4.50	4.40	4.44	4.52

All leaders were cybercentric in their views on trust and relationships, reflecting the overall outcome of the survey where trust was identified as the dimension with the highest cybercentrism value. Communication was identified as an important factor in this relationship.

How important do you think trust is in the relationship between the LGA and its citizens?

EL2 identified trust as *"the most important asset".* This leader went on to comment that there was some cynicism about local government which makes it difficult for councillors to operate. This was confirmed by a recent survey of WA councillors and citizens (Western Australian Local

Government Association (WALGA), 2006). This leader felt it was now a *"much more discerning constituency."*

EL5 commented that: *"You can't deal with people you can't trust. You deal with them but you don't deal well with them …".* This leader felt trust works both ways between citizens and council and has an impact on decision-making. This was suggested as an active process by AL1: *"Trust is an actively attained thing. It isn't passive."* EL1 suggested the importance of ethics in developing the trust relationship between the council and its citizens. AL3 extended this with the suggestion that trust builds confidence in the community that its government can do the right thing and therefore the efficiency and effectiveness of government: *"For us to get on and do our job and not be continually challenged by the community."*

What strategies do you implement to build trust? What do you think are the most important factors in building trust? Would your website have an important part to play in building trust in your community?

Strategies included councillor representation on community groups, availability and open communication. The linkage between trust, corporate values and respect was also emphasised. Whilst being approachable included the provision of an email address on the website for EL5, most leaders were of the view that person-to-person communication was still best in informal personal spaces. However EL1 believed the website would definitely have an important part to play in developing trust. AL2 raised the issue of mistrust in the community about the safe use of the internet, which may impact on council's development of e-spaces.

Do you think the development of the web spaces we've discussed a little earlier would be of benefit in building trust with your citizens? Which spaces would this involve do you think and to what extent would each space be developed?

There was a cautious response to this question. For some elected leaders, it was felt the use of these spaces could address the "clubbiness" reputation of local government and *"make it a little more inclusive."* (EL4). However, other elected leaders pointed to the possibility of detracting from the relationship due to misunderstanding of the written word.
EL5 was adamant that if there was an e-democracy space available it would be adopted. This leader cited the success of postal voting in raising turnout and lowering costs and suggested the e-democracy space could increase turnout even more by offering a channel of choice while remaining low cost. By contrast, EL3 felt development of the e-participation space would be most important as it stimulated feedback. AL3 agreed and suggested development of the e-consultation and e-participation spaces also would definitely be of benefit in building trust with citizens. This concurrent e-space development and use as a communication and feedback mechanism to develop trust was also mentioned by AL1 and EL4.

Do you think local government collaborative projects require considerable trust between the partners to produce successful outcome? Are these collaborations becoming more or less common in your opinion?

Even though collaborative projects are becoming more common and are generally associated with clear documentation or contracts, all leaders felt trust was important to produce a successful outcome. AL3 pointed out that not everything can be written in a contract and that collaborative projects often involved primary outcomes that were community-based, not commodity-based. Communication was once again identified as a key component of this relationship.

All leaders mentioned the importance of collaboration within their local ROCs. EL1 also cited the impact of recent reviews of local government and the use of the local ROC to provide cost efficiencies and avoid forced amalgamation. This leader felt trust had grown between collaborating

councils. It is possible this was a result of the perceived government threat of amalgamation. EL5 commented that:

> *"If you don't have trust in a collaborative relationship you have a lot of problems because there are people constantly agitating. … If you haven't got trust then you're spending all your time watching your back instead of doing your work".*

AL5 also suggested that trust can be developed because of the projects.

> "*Sometimes you can start out with fairly low levels but it's how you conduct yourself in the process that can mean it builds trust and goes ahead or it starts deteriorating and goes the other way. So they sort of feed on each other".*

As the relationship develops, trust becomes implicit and overrides the need for excessive documentation. This is relevant also to development of the e-space.

AL1 pointed out that, with respect to collaboration with other councils in the local ROC, trust was built up over many years. Whenever the appointed or elected leadership of the ROC changed, it was necessary to re-establish the trust relationship.

7.5 Discussion

The case study interviews provided contextual depth for the results obtained from the survey research strategy. Post-interview cluster analysis located the case study pairs of pairs selected in cluster 2, a balanced cluster of urban and regional councils exhibiting overall cybercentrism of viewpoint, but with a geocentric corporate structure dimension. The use of case studies from the same cluster provided a powerful method of validation of both the survey response and clustering results.

The interview responses reinforced those expected for councils with the cybercentrism levels exhibited for this cluster, confirming the power of the clustering technique and also that use of the cybercentrism framework and continuum to represent the attitudes of TMT leaders was valid. These

responses also provided insight into some of the factors driving the movement of local government on the cybercentrism continuum.

The application of the cybercentrism management paradigm to identifying attitudes towards providing the management environment for local digital government in Western Australia has been demonstrated. By extension therefore the level of cybercentrism of the other clusters is confirmed and cluster membership could be used to predict the level of cybercentrism of a council and the attitude towards the implementation of local digital government.

Broadly speaking, the elected and appointed leaders were aligned on the cybercentric side of the continuum in both 2003 and 2005. However, differences in the level of cybercentrism both between and within dimensions were identified. These generally related to a conflict between strategic and operational, political and administrative imperatives. These leaders also confirmed the observation that Western Australian local government is still firmly anchored in the e-government space and has not embraced many of the concepts of the LDGF.

Although some movement towards implementing e-governance is being contemplated, a split between intent and implementation can be observed. The need to develop more of the e-governance spaces was acknowledged. However, due to various financial and human resources constraints, development of such spaces could be expected to take at least ten years between 2005 and 2015. Intent is obvious, with action following according to a timeline developed within the individual council's constraints.

The use of communication as a method of increasing accountability and for building citizen relationships was a theme for both elected and appointed leaders. Development of the website e-spaces could therefore enhance the cybercentrism of this dimension for councils and strengthen accountability. It could also provide a method for councils to introduce

horizontal authority into their flattened structures, increasing their cybercentrism levels and achieving the aims of elected leaders within the constraints experienced by appointed leaders.

Chapter 8 considers the level of e-space development taking place in WA councils through e-SAT assessment of council websites in 2003, 2005 and 2007. Chapter 9 then provides further context for current and future intentions to use council websites to facilitate local digital government.

8 LOCAL DIGITAL GOVERNMENT ON COUNCIL WEBSITES – USING THE e-SAT

Council websites can be characterised in terms of e-spaces which change over time relative to community needs and expectations, rather than developing sequentially. This characterisation reflects the organic and contextual approach to the development of citizen interaction levels within the local community's needs and expectations and enables the expression of the growth or contraction of the e-spaces according to that context. Digital government and its enabling cybercentric outlook require extension of the e-government VEE service delivery model with its organisation-centric focus to the citizen-centric focus of the CCDG model (*see* Chapter 4).

The e-SAT (*see* Chapter 4) was used to identify the presence and degree of such change through assessment of the level of development of e-governance e-spaces on council websites. This new tool was developed to extend existing NPM-derived tools which were focused on e-government service delivery, rather than the e-governance facets of digital government. The tool also enabled development of a multi-dimensional picture of council website e-spaces, providing evidence of the degree of preparation for and implementation of the facets of digital government.

This chapter presents the results from assessment of the websites of the Western Australian councils used in the cluster analysis (*see* Chapter 6) in 2003, 2005 and 2007. This allows investigation of any change in the e-spaces and enables coordination of this information with the outcomes of the survey and interview strategies. Use of these councils provided a significant sample size of 46% of all WA councils. Council ACLG codes (Appendix Five) are noted where relevant. The term "*rural*" is used in both this chapter and Appendix Seven to encompass both rural and regional councils.

8.1 e-SAT Assessment Overview

The e-SAT was designed to provide depth of analysis and a multi-dimensional picture of the degree of e-space development through assessing four major attributes:

1. Presence

Whether the e-space component is present or not

2. Frequency

The number of instances or classes of the component observed on the website

3. Functionality

Whether the item is:

a. token with limited representation;
b. fully functional and populated or
c. redundant, with the item present but not current

4. Level

The tier of the website where the e-space component first becomes functional (e.g. homepage h^0, h^1, h^2 etc.).

Once the presence of the component is established, the degree of growth or contraction of the e-space over time can be assessed through consideration of the frequency and functionality of its components in each period. Consideration of the level at which the item first becomes functional is an indicator of the accessibility of the e-space.

Table 8-1 presents an overview of council preparation levels for the various components of e-government and e-governance assessed using the e-SAT. The preparation and functionality levels relative to the separate sub-components of e-government and e-governance are discussed in more detail in sections 8.2 and 8.3. The following code is used in the presentation of results, i.e.:

NP – Not Prepared; PP – Partially Prepared; FP – Fully Prepared

Table 8-1 Overview of WA council e-government and e-governance preparation levels 2003-2007

	2003			2005			2007		
	NP %	PP %	FP %	NP %	PP %	FP %	NP %	PP %	FP %
e-GOVERNMENT									
Publish	6	25	69	7	20	73	5	20	75
Interact	**2**	**88**	**10**	**0**	**84**	**16**	**0**	**91**	**9**
Transact	**4**	**40**	**56**	**0**	**27**	**73**	**2**	**29**	**69**
Transform	67	33	0	68	32	0	71	29	0
e-GOVERNANCE									
e-Consultation	2	98	0	0	100	0	2	98	0
e-Participation	2	98	0	0	100	0	0	100	0
e-Networks	2	98	0	0	100	0	0	100	0
e-Democracy	100	0	0	100	0	0	100	0	0

Analysis of the level at which e-space components first become functional indicates this is almost universally at the level of the homepage (h^0) or the next page in the information architecture (h^1). WA council websites thus have appropriate architecture for citizens to access information and pursue interaction.

In the publish e-space, it can be seen that 5% of councils are still not prepared to provide decision-making information documents on their websites by 2007. Although the number of fully prepared sites has risen between 2003 and 2007, 20% of sites are only partially prepared, lacking either provision of strategic or information documents on their sites.

The greatest shift over the analysis period has been in the increasing expansion of the transact e-space between 2003 and 2005, including the development of options for payment online and electronic contact with officers. This corresponds with recent findings of increasing e-commerce

on Victorian council websites (Shackleton et al., 2005). However, contraction of this e-space is apparent in 2007.

Complementing the expansion of the transact e-space is an increase in the level of preparation to interact A proportion of councils are also developing the transform e-space, with provision of customer service tools such as interactive mapping, business assessment tools and, to a lesser degree, basic central government and business portal access. However, a slight contraction in the preparation levels for transformative interaction with both business and citizens was observed, illustrating the dynamic, non-linear nature of e-space development on council websites. Differences are also observable between urban and rural council websites. These differences are discussed in section 8.2.

All councils in the sample have some components of digital government observable on their websites by 2007. These are generally linked to email contact with officers and councillors and the gradual implementation of e-consultation and e-news areas. No attempts have been made to implement e-democracy or the cybercentric aspects of digital government such as online communities of practice.

Although it is an integral part of the Western Australian government's electronic services strategy (Office of e-Government, 2007), very few councils have implemented channel of choice options such as public bulletin boards, web discussion spaces, online surveys and polls and web-casting of public meetings. Some of the implementations that had been undertaken were noted as redundant.

As reported in a UK study (Kearns et al., 2002), email to elected members is not encouraged by WA councils as a mechanism of citizen feedback. Between 2003 and 2007, the number of sites with no email to elected members increased from 33% to 42%. At the same time, the number of websites with multiple functionality in online contact with elected members has decreased from 42% in 2003 to 7% in 2007.

Conversely, other citizen interaction options such as online feedback mechanisms are expanding. In 2007 58% of councils offered many forms of functional contact with officers, compared with 52% in 2005 and 31% in 2003. At the same time, the number of councils restricting email to officers to a token generic contact address (for example info@council.wa.gov.au) for the whole council has decreased from 46% in 2003 to 29% in 2007. One council explained the use of a generic contact address as an attempt to minimise spamming (H.Salim, personal communication, April 20, 2007). Such addresses may also be of use in controlling records management within councils to comply with the requirements of the *Western Australian State Records Act* (2000).

Electronic citizen and customer relationship management (e- CzRM and e-CRM) (Larsen & Milakovich, 2005) is not as well developed as in some eastern states councils, which enable customers to submit enquiries online (Figure 8-1) and track their progress (Figure 8-2) through a unique identification number.

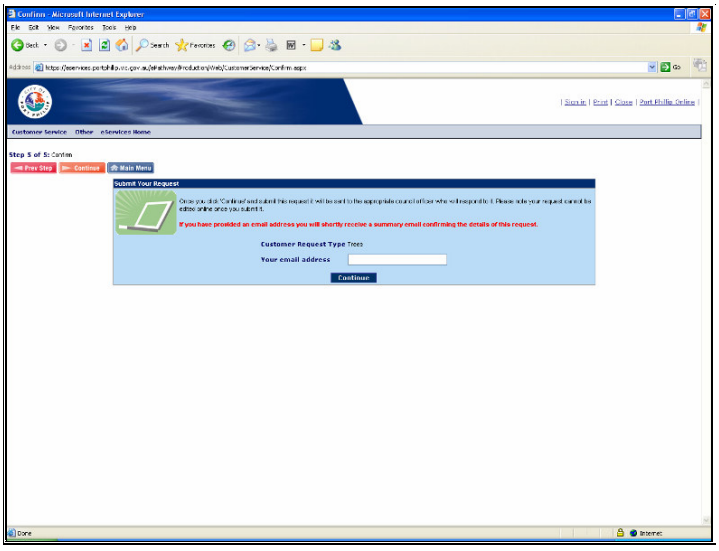


Figure 8-1 Submission of online query-Port Phillip Council (UDL) Victoria, 2007

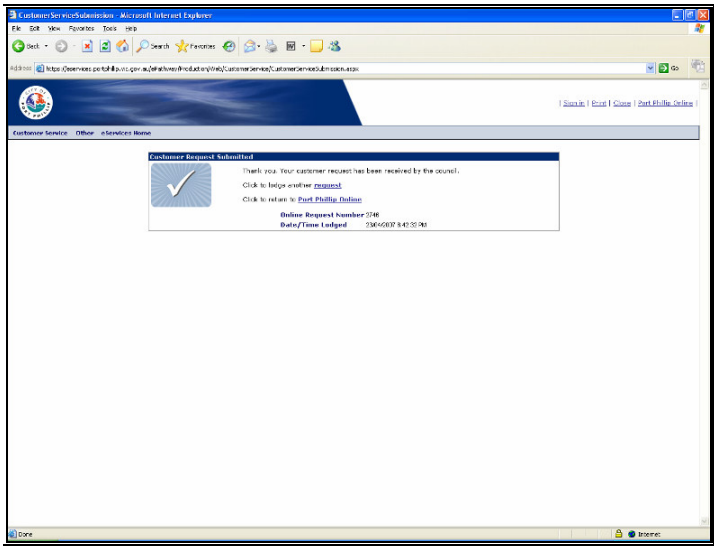


Figure 8-2 Provision of tracking number for online query Port Phillip Council (UDL) Victoria, 2007

Similarly, in Western Australian councils no use of planning application tracking tools was apparent in the sample, although this is evident on some eastern states council websites (for example that of Woollahra and Warringah councils in New South Wales (NSW), Figure 8-3 and Figure 8-4).

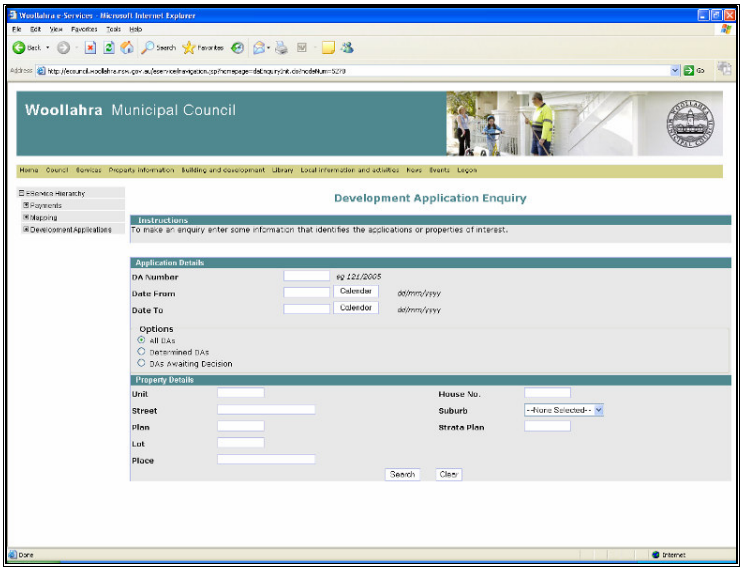


Figure 8-3 Online development application query Woollahra council (UDM) NSW, 2007

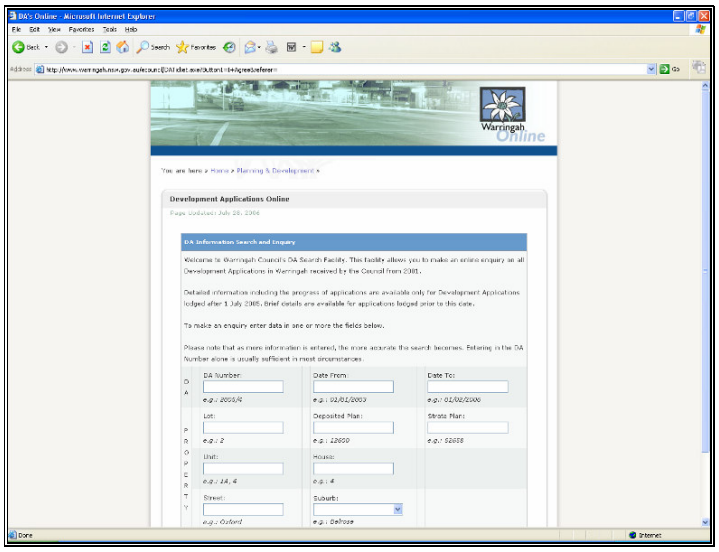


Figure 8-4 Online development applications online Warringah council (UDV) NSW, 2007

Indeed, the UK Department of Communities and Local Government intends to use the provision of online planning services tools as the second phase of a campaign to increase citizen uptake of electronic services (Poluck, 2007).

However, Western Australian councils are gradually adding e-CRM components through the provision of items such as interactive mapping and business development tools.

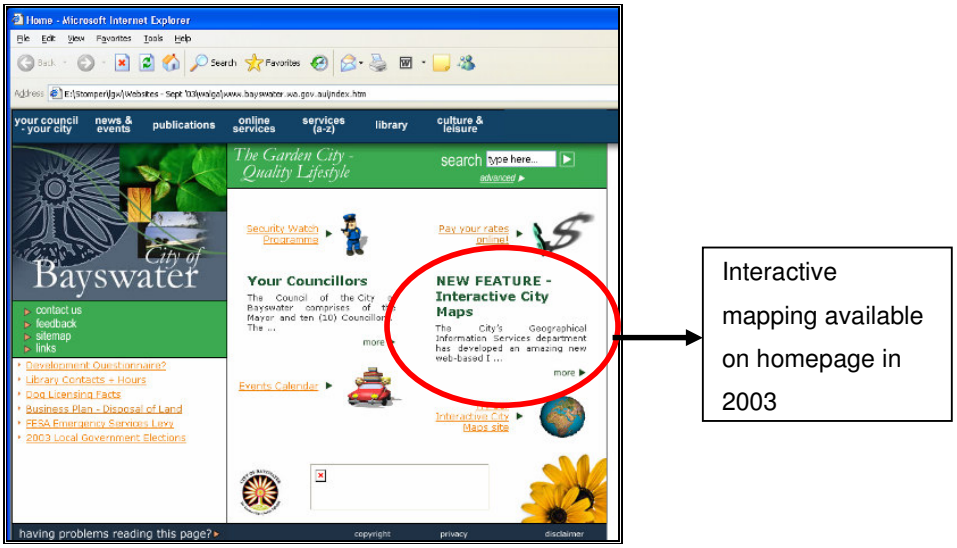


Figure 8-5 Interactive mapping City of Bayswater council (UDM) WA, 2003

The City of Bayswater for example (Figure 7-5), introduced this capacity in 2003, as " … part of the City's desire to help deliver a more efficient customer service" (City of Bayswater, 2003).

The partial preparation of Western Australian council websites in the e-spaces of e-consultation, e-participation and e-networks rests largely but not wholly on the provision of email and other forms of contact with officers and elected members. However, each e-space has one or more unique components present along with the components common to all spaces and can therefore be considered established on some council websites. e-consultation and e-participation spaces are more securely established than the e-networks space.

The survey results showed the spread of cybercentrism levels between became more obvious in 2005, indicating the potential for lead and lag councils in the implementation of local e-government associated with their level of cybercentrism. This is confirmed with e-SAT assessment, with lead and lag implementation of e-government and e-governance evident.

Analysis of the individual e-spaces in the following sections shows the degree to which this is taking place for each space. For example, the publish e-space is virtually fully implemented across WA councils. However, in the transform e-space rural councils lag urban councils in implementing e-CzRM/e-CRM functionality. Urban councils are expanding this space, with 37% of the sample councils offering token functionality, while no rural councils offered any functionality in this component. Some communities have maintained basic brochure websites, with little current information. However, such sites are in the minority.

By 2007, lead councils are beginning to utilise public message boards, discussion forums, online surveys, e-newsletters and general e-news concerning events and projects plus the ability to subscribe online or use RSS to varying degrees as tools to stimulate citizen engagement. In 2007,

a well-populated *'CEO's Blog'* section is evident on the City of Swan website (Figure 8-6).

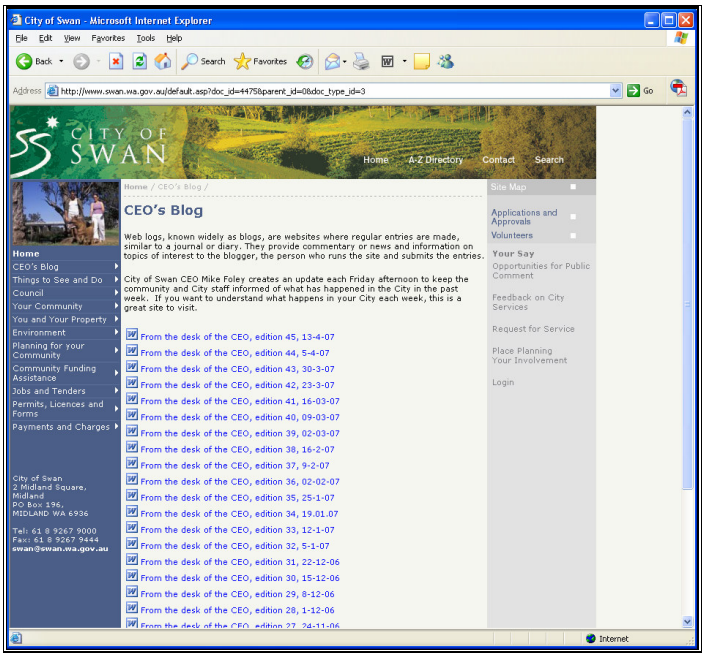


Figure 8-6 CEO's Blog, City of Swan (UFL) WA, 2007

The City of Melville redesigned its website in 2007 to provide a better platform for community engagement and demonstrate its broader role: "… this rebranding helps to demonstrate the change in local government from being a 'service provider' to a 'community partner' …"(City of Melville, 2007).

Acknowledgement of this wider role for local government and the need for two-way communication rather than just information dissemination is a key-feature of the LDGF and necessary for the development of citizen-centric government. e-SAT analysis shows the growing provision of the e-spaces of e-governance on council websites, with 98% to 100% of sites partially prepared to develop this citizen involvement. This may be the outcome of a shift from an organisation-centric to a citizen-centric focus.

Improvement in the ease of interaction between council and business in Western Australia is apparent between 2003 and 2007, with the tender e-

space emerging on council websites and the provision of small business online assessment tools designed to streamline business set-up processes and improve the e-CzRM/e-CRM e-space relationship (Figure 8-7).

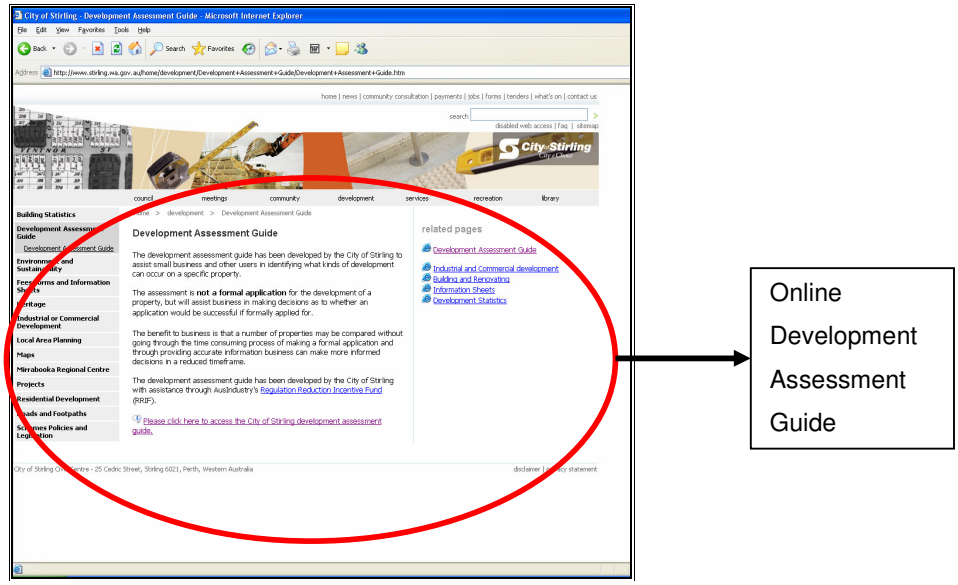


Figure 8-7 Development Assessment Guide online tool City of Stirling (UDV) WA, 2007

Such tools require considerable financial commitment by the council concerned, including ongoing maintenance to ensure functional use as well as setup costs. The Development Assessment Guide shown in Figure 8-7 (above), for example, was only partially funded by a $187,000 grant from the AusIndustry Regulation Reduction Incentive Fund (RRIF).

By 2007, a growing number of WA council websites exhibited designated Business web spaces available from the homepage. However, facilities such as the Electronic Tender Boxes found on Queensland's Brisbane City Council website (Figure 8-8) were not apparent on any WA council website in the sample.

Figure 8-8 Electronic Tender Box Brisbane City Council (UCC) QLD, 2007

The e-SAT assessment shows that by 2007 not all Western Australian councils were fully prepared even at the publish level of e-government implementation, with information documents and strategic documents not available on the council website. Such brochure sites provide no capacity to develop an informed participatory relationship between the council and its citizens. In many components of the assessment a clear gap in digital government preparation levels between rural and urban councils is also evident.

The results of e-SAT assessment of e-government and e-governance e-spaces on Western Australian council websites at three time points are discussed in the following sections. These results are presented as a rounded percentage of the websites available for analysis at any given time point. Due to rounding, they may not always add to 100%. Comprehensive results are presented in Appendix Seven, G.2.

8.2 Comparative e-SAT assessment results 2003, 2005 and 2007: e-Government

The components and sub-components of the digital government space are discussed in Chapter 4, section 4.4. The interpretation of these components and sub-components in the context of local digital government is made explicit in Appendix Seven, G.1. Table 8-2 shows the components of the e-government facet of digital government. The conceptual model for development of digital e-government spaces is the organisation-focused VEE model.

Table 8-2 Components of the local digital e-government space [*adapted from* Stanton, 2005]

Digital government facet	***e-Space***	***Primary e-components***	***Secondary e-components***
e-Government Online process implementation Organisation-centric "Push" ***Conceptual Model:*** Government focused VEE	**Publish** Providing Information – *"data in context"* [1], [3], [4], [7],	Static and strategic information available for download [4], [11].[12]	Information documents Strategic documents
	Interact Two-way communication *with* the citizen. Citizen feedback [4], [5] ,[12]	Common entry points. Access to information to do business with government	Downloadable forms / documents Site search email to officers Employment Tenders Information portal
	Transact Citizens can conduct and complete transactions online[1 , [4] ,[11],[12]	Access to transactions online or in person Seeking feedback	Payment online email to officers Ability to complete transaction online
	Transform Seamless/integrated virtual government [1], [3], [4], [11],[12]	Submission tracking End-to-end process integration E-business	e-CzRM/e-CRM Central government portals for all services & links]

Digital government facet	*e-Space*	*Primary e-components*	*Secondary e-components*
		opportunities	Integrated supply chain Business Portals

[***Sources:*** [1]OECD (2001a); [2]Kearns (2002); [3]Windley (2002); [4]NAO (2002);[5]IDeA (2002); [6]Clift (2003b); [7]Marche & McNiven (2003); [8]Riley (2003); [9]Riley & Riley (2003); [10]Smith et al. (2005); [11]Zhou (2004); [12] AOEMA (nd); [13] AGIMO (2007) [14] Bailey (2007); [15] O'Malley, Higgins et al. (2007)]

8.2.1 Publish

Table 8-3 shows the growth of the publish e-space at each period in the time series. The number of *partially prepared* sites is decreasing, with a corresponding increase in *fully prepared* sites. Thus, by 2007, 75% of the WA council sample provided many classes of information and strategic documents on their websites.

Table 8-3 Time series analysis - Publish e-space

	2003			**2005**			**2007**		
	NP %	**PP %**	**FP %**	**NP %**	**PP %**	**FP %**	**NP %**	**PP %**	**FP %**
Publish	6	25	69	7	20	73	5	20	75

This section of the tool assessed the degree of information and strategic documents available on Western Australian council websites. The assessment item referred only to documents, not general "brochure" information. The presence of such documents forms an input to citizens' and customers' decision-making processes and availability on the council website ensures these groups can choose the channel which best suits them to access such information.

Appendix Seven, G.2.1 shows the comparative frequency and functionality of the Publish e-space components on WA council websites.

Information Documents

By 2007, a small proportion of councils (5%) still do not have information documents available to their citizens. However, the number of councils with only token representation in this area has decreased from 21% in 2003 to 9% in 2007. At the same time the number of council websites with a functional set of at least one class of information documents available to citizens has increased from 71% in 2003 to 83% in 2007. This area is redundant in 2% of council websites in 2007.

When assessments are categorised by ACLG code, it can be seen that rural councils lag urban councils in both the quantity and variety of information documents available on the website.

Strategic Documents

As with the information document component of the publish e-space, strategic documents increased in quantity and variety between 2003 and 2007, with the number of token classes of document decreasing between 2003 and 2007 while 64% of all council websites enabled access to many classes of strategic documents. Urban councils have implemented this area more extensively than rural councils with 89% of urban councils having many classes of strategic documents available, compared to 39% of rural councils.

8.2.2 Interact

Table 8-4 (below) illustrates the organic nature of the Interact e-space at each period in the time series. All councils in the sample were at least *partially prepared* to interact with citizens and business by 2007. However, expansion and contraction of the e-space can be seen in 2005 and 2007 respectively. This relates to a great extent to limitations on email contact, the use of online employment tools and provision of information portals.

Table 8-4 Time series analysis - Interact e-space

	2003			2005			2007		
	NP %	PP %	FP %	NP %	PP %	FP %	NP %	PP %	FP %
Interact	2	88	10	0	84	16	0	91	9

This section of the tool assessed the availability of a number of online interaction methods on Western Australian council websites. This included interaction methods for both citizens and customers and the ease of access to council staff and elected members as well as the variety of methods to access relevant information on the website. The presence of an information portal was also examined as a cybercentric indicator of the degree of council facilitation of external networks rather than maintenance of internal control of information dissemination.

Appendix Seven, G.2.2 shows the comparative frequency and functionality of the Interact e-space components on council websites.

Downloadable Documents

By 2007, only 4% of councils did not provide access to downloadable documents, with a further 4% of councils (half the number in 2003) providing only token access

All urban councils have provided this facility since 2003. However, for rural councils this e-space contracted between 2003 and 2005 before expanding significantly between 2005 and 2007, when only 7% of rural councils did not offer this facility.

Online Form Submission

This method of interaction refers to forms, other than feedback, which can be submitted online rather than only in hard copy. Figure 8-9 shows an online council question form. Other examples noted include change of address, application for services and works requests.

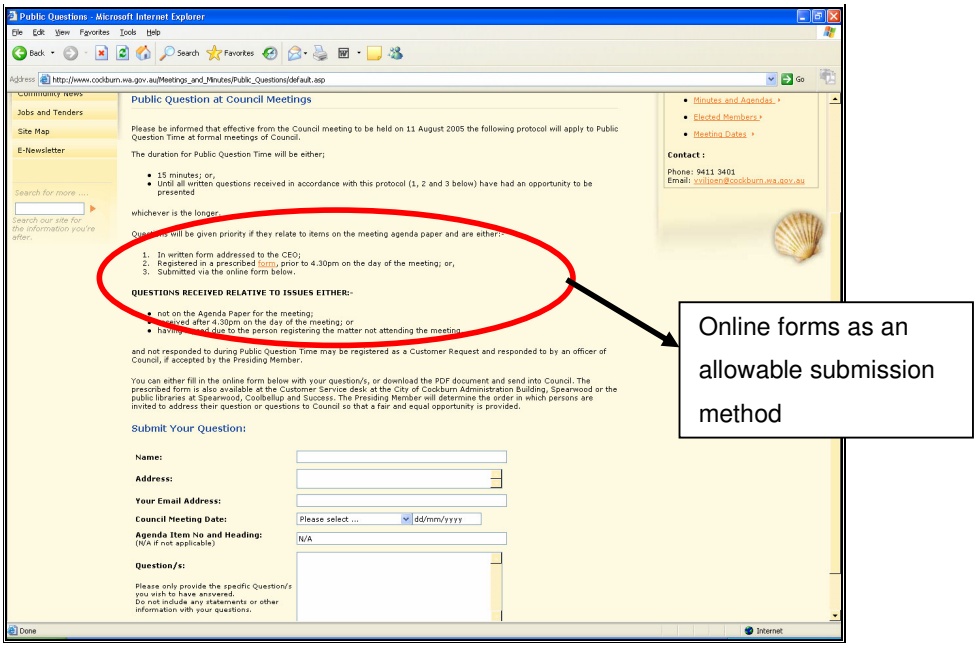


Figure 8-9 Online council public question form Cockburn Council (UFL) WA, 2007

By 2007, 40% of all sample councils provided functional online form submission of at least one type. This represented a continued increase from 24% in 2003 and 34% in 2005.

By 2007, 59% of urban councils offer online form submission. For rural councils this e-space expanded between 2003 and 2005 before contracting slightly between 2005 and 2007, when 22% of rural councils provided this facility.

Site Search

It is important to ensure website users can use a variety of methods to access information. Site search facilities (including keyword search, hot links, Google search and sitemaps) are consistent features of WA council websites. In 2003, 52% of councils offered search mechanisms. This increased to 70% in 2005 and 84% in 2007.

In 2003 68% of urban councils had a functional search mechanism. This increased to 76% in 2005 and 85% in 2007, including 63% of councils with multiple search mechanisms. Only 33% of rural council sites had a

functional search mechanism in 2003. By 2007, this increased to become comparable to urban councils, 78%of rural councils exhibiting this functionality with 46% of these councils offering multiple search mechanisms.

Email to Officers

Interaction between councils and citizens and customers on service delivery issues is a *channel of choice* issue. E-mail contact with officers is one such interaction method which can be made available on council websites. This e-space also includes the use of online feedback forms provided for this specific purpose.

Whilst the total number of councils with token email addresses for council officers (for example info@council.wa.gov.au) has reduced from 46% of officer email addresses in 2003 to 29% in 2007, this limited interaction level is still significant. One explanation offered for this was the need to avoid spamming (H. Salim, personal communication, 20 April, 2007), however this trend is noticeable from 2003 to 2007. Whilst the user cannot control the communication process as confidently, the growing provision of online feedback form contact expands the choice of interaction methods.

All urban councils have had email contact to officers since 2003, but this has changed from predominantly token contact in 2003 to predominantly multiple methods of contact in 2007. However, rural councils retain a significant percentage of token email contact options for officers however 72% of rural councils offered functional email contact with officers, with 54% of these offering multiple methods of contact from the website.

Employment Online

Employment online is variably represented on WA council websites. This e-space expanded between 2003 and 2005, but contracted slightly between 2005 and 2007. Token use of this e-space was prominent, increasing from 32% in 2003 to 45% in 2005 before contracting to 19% in 2007. Functional use of the e-space grew from 19% in 2003 to 29% in

2005 and 48% in 2007 showing it becoming part of the business of council. Twelve percent of all employment e-spaces were redundant in 2003, reducing to only 2% in 2007

The token functionality trend is repeated for both urban and rural councils. Rural councils exhibited the largest number of redundant employment e-spaces and a significant contraction in 2005 with 39% of token employment e-spaces having no associated employment offers.

Rural councils may be using community portals as cost neutral *de facto* online employment sites. For example, the Shire of Merredin provides a link to Merredin.com, a local portal providing employment information, web discussion spaces and general tourist, business and community information on the area.

Tenders Online

The ability to download and register for tender documentation online is an efficiency benefit of e-government and a component of developing an online supplier relationship (Figure 8-10 and Figure 8-11).

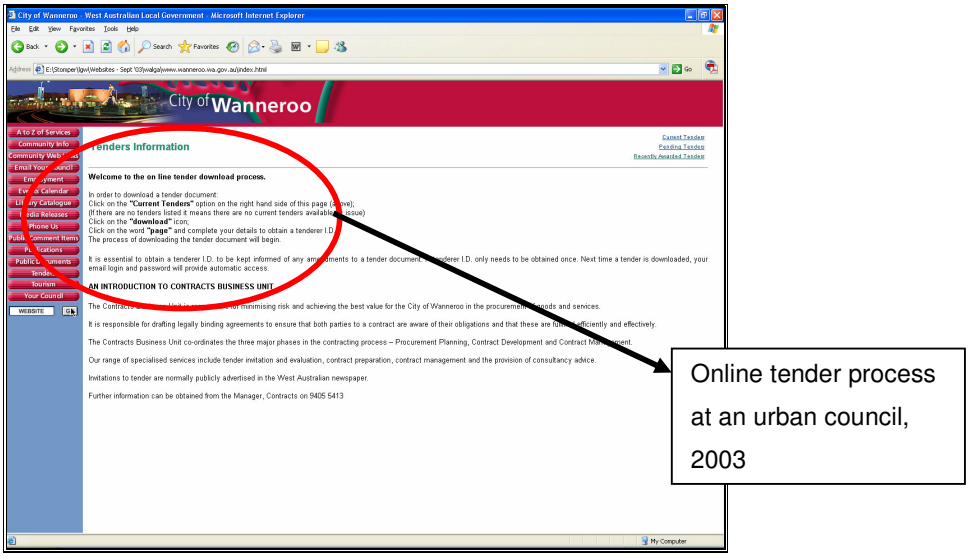


Figure 8-10 Online tender process, City of Wanneroo (UFL) WA, 2003

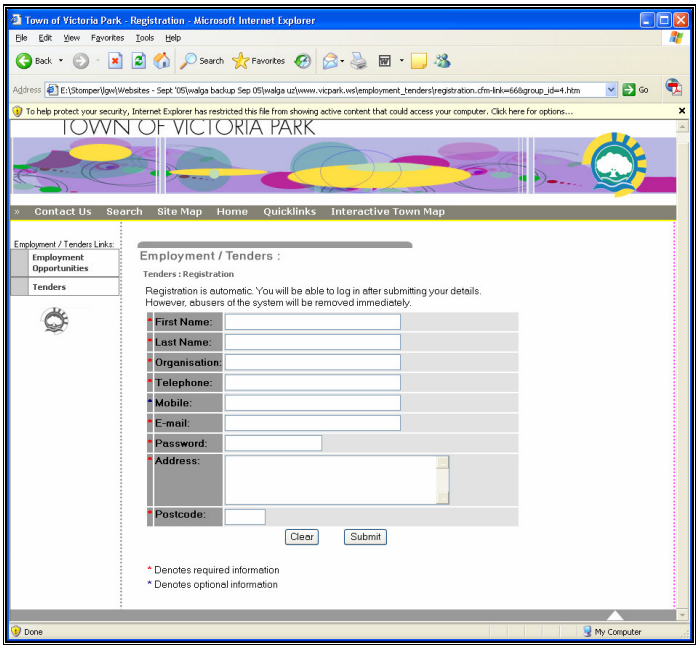


Figure 8-11 Automatic online registration for tender documents, Town of Victoria Park (UDS) WA, 2005

This space grew between 2003 and 2005, then contracted between 2005 and 2007. This appears to have a functionality basis. Token use of the space increased between 2003 and 2005 (accounting for 34% of councils exhibiting this sub-component) and then decreased to 20% in 2007. At the same time the tender space become more functional the frequency of functional online tender components increasing consistently in 2003, 2005 and 2007.

In 2003, 6% of the sample councils overall had a redundant tender space, contracting to 0% in 2005 and expanding to 4% in 2007.

Contraction of the online tender space occurred in both urban and rural councils, although by 2007 only 26% of urban councils did not have some form of online tender capacity, compared to 64% of rural councils. The overall trend of decreasing token use of the space and increasing functional use of the space was reflected rural councils. However, urban councils showed a reduction in functional spaces from 53% in 2005 to 48%

in 2007. This was due to a move away from spaces with only one class of tender either to a space with no tenders, or a space with multiple tenders.

No urban councils had redundant tender spaces, while 7% of rural websites had redundant tender spaces by 2007. This increased from 0% in 2005.

Information Portal

This space contracted between 2003 and 2007 for both rural and urban councils. For the overall council sample the number of websites with no access to an information portal rose from 45% in 2003 to 52% in 2005 and 69% in 2007. This contraction is represented in both the token and functional areas. No redundant spaces were identified, indicating the planned removal of previously existing portals. Both urban and rural councils reflect the overall trend.

8.2.3 Transact

Table 8-5 illustrates the overall growth of the Transact e-space between 2003 and 2005. A contraction of the e-space is noticeable in 2007, with a backward shift occurring from *fully prepared* to *partially prepared* and *not prepared* categories. This is related to the contraction of email to officer opportunities and a rise in the number of token email addresses for this group.

Table 8-5 Time series analysis - Transact e-space

	2003			2005			2007		
	NP %	PP %	FP %	NP %	PP %	FP %	NP %	PP %	FP %
Transact	4	40	56	0	27	73	2	29	69

Appendix Seven, G.2.3 shows the comparative frequency and functionality of the Transact e-space components on council websites.

Payment Online

This space contracted between 2005 and 2007. However, as found with the tenders space, the functionality increased with 44% of the overall sample offering the option to make multiple payments online by 2007. No redundant or token spaces were identified.

Only 7% of urban councils in the sample did not offer some level of payment online option, while 54% if rural councils did not offer this facility. Urban councils have progressively expanded this space between 2003 and 2007. The space expanded between 2003 and 2005 for rural councils, contracting again in 2007. However, the trend toward a steady increase in multiple functionality was still identifiable on these rural sites with the contraction occurring in the single functionality space as with urban councils.

8.2.4 Transform

Table 8-6 illustrates the low level of preparation exhibited in this e-space and the contraction in the Transform space between 2003 and 2007. The number of *not prepared* councils has risen at each point of the time series, with a backward shift from *partially prepared* to *not prepared* obvious. No council is fully prepared in this e-space. Whilst attempts at providing business pages on websites were noted, these were generally information pages and not designed to develop a transformative relationship.

Table 8-6 Time series analysis - Transform e-space

	2003			2005			2007		
	NP %	PP %	FP %	NP %	PP %	FP %	NP %	PP %	FP %
Transform	67	33	0	68	32	0	71	29	0

Appendix Seven, G.2.4 shows the comparative frequency and functionality of the Tranform e-space components on council websites.

e-CzM/e-CRM

The e-CzRM/e-CRM space has gradually expanded between 2003 when 96% of councils in the sample had no evidence of e-CRM on their sites to 82% with no evidence of e-CRM in 2007. However, this space universally has token functionality only and consists mainly of mapping tools and business development applications. No customer request tracking systems were identified in the sample.

The e-CzRM./e-CRM space has only been developed by urban councils. No rural councils offered e-CRM components on their websites.

Central Government Portal

As found with information portals, this space contracted consistently between 2003 and 2007 on the sample websites. The number of token spaces decreased to 0% in 2005 and then rose to 4% in 2007, while the number of functional spaces decreased from 14% to 0% between 2005 and 2007.

While this effect is almost entirely due to a shift in urban council functionality in this space, rural councils decreased token functionality from 15% in 2003 to 0% in 2005.

Integrated Supply Chain

It is expected that most councils would have internal online invoicing and funds transfer facilities in place and that this would not be visible on the council website. However, this e-space component is developed around providing interacting with suppliers through the council websites and providing a supply chain facility online between contracting and supply of goods and services.

Integrated supply chain components of the Transform space are starting to appear to a small degree on council websites, with 4% of the sample councils overall showing token functionality in 2007. This trend was

echoed in the urban and regional results with 4% of the councils in each category offering token functionality.

Business Portal

The business portal component of the Transform space is not well developed, with 87% of sample councils overall having no portal on their site. This has remained relatively constant between 2003 and 2007. A large proportion of portals identified had only token functionality.

This trend is reflected in the figures for both urban and rural councils. However, while a slight expansion in the space from 2003 to 2005 is evident on urban sites and maintained in 2007, rural sites show a consistent contraction of the space between 2003 and 2007. As with the information portal findings above, there are no redundant portal sites, indicating the planned removal of previously existing portals.

8.3 Comparative e-SAT assessment results 2003, 2005 and 2007: e-Governance

Table 8-7 shows the components and sub-components of the e-governance space. The local digital government conceptual model for development of the e-governance spaces is the CCDG model operating within the cybercentric management paradigm (sections 4.3.1 and 4.3.2).

Table 8-7 Components of the local digital government e-governance space [*adapted from* Stanton, 2005]

Digital government facet	*e-Space*	*Primary e-components*	*Secondary e-components*
e-Governance Online transformation to "*representative e-government*" [6] Citizen-centric / "Pull" [10]	**E-consultation and collaboration** (including e-policy) [8] Seeking citizen feedback to contribute to initial stages of	Mechanism available to provide formal feedback on projects and policies At least one defined method to undertake	Consultation module "Have your say" Public message board [15] Web-casting public meetings [15]

Digital government facet	***e-Space***	***Primary e-components***	***Secondary e-components***
Conceptual Model: Governance-focused CCDG	policy-making and strategic planning. [6], [7], [10],[12]	specific consultation exercises [6], [7], [8], [9]	Online surveys / questionnaires [14], [15] Email to officers Real-time forums
	e-Participation [2] *" … the use of ICT to open new channels for participation in the democratic process between elections"* [cited in 9] Associating information with purpose and experience to develop e-knowledge. [4], [6] [10],[12]	Mechanism available for online sharing of information and ideas [2], [7], [8],[12]	eMail Privacy statement Web discussion spaces [15] (eg Topic portal, chat & citizen blogs [15]) e-Newsletter/e-News (incl. council blogs [15]) Online polls
	e- Networks " *… the strategic use of ICTs to better implement established public policy goals and programs through direct and diverse stakeholder involvement online.*" [6] Networked societal guidance [8] Online Communities of Practice [6], [7]	Mechanism for full online civic engagement including online public deliberation and debate. Mechanism available for those with relevant expertise to participate in projects with government officers (eg voluntary sector-local government partnerships)	Privacy statement Web discussion spaces (eg Topic portal, chat & citizen blogs [15]) e-Newsletter/e-News (incl. council blogs [15]) eMail Online Communities of Practice e-Petitions [15] Online polls
	e-Democracy Transformative democracy *" … the use of ICTs in support of citizen-centred democratic processes".[2]. [9],[13]*	Mechanism for full online democractic engagement [2], [7],[8]	e-Voting At least one binding online polling/survey method

[***Sources:*** [1]OECD (2001a); [2]Kearns (2002); [3]Windley (2002); [4]NAO (2002); [5]IDeA (2002); [6]Clift (2003b); [7]Marche & McNiven (2003); [8]Riley (2003); [9]Riley & Riley (2003); [10]Smith et al. (2005); [11]Zhou (2004); [12] AOEMA (nd); [13] AGIMO (2007) [14] Bailey (2007); [15] O'Malley, Higgins et al. (2007)]

8.3.1 e-Consultation/Collaboration

This e-space facilitates citizen feedback to the initial stages of policy-making and strategic planning. It provides an online mechanism for formal feedback on specific projects and policies supported by provision of relevant documentation.

Preparation for e-consultation overall has remained steady between 2003 and 2007, with only 2% of councils in the sample having no items in this e-space by 2007.

Table 8-8 Time series analysis – E-consultation/collaboration e-space

	2003			2005			2007		
	NP %	PP %	FP %	NP %	PP %	FP %	NP %	PP %	FP %
e-Consultation	2	98	0	0	100	0	2	98	0

Different rates of development of the components of this e-space can be identified and are discussed in the following section. Appendix Seven, G.2.5 shows the comparative frequency and functionality of the e-Consultation/Collaboration e-space components on council websites.

Consultation Module

Rapid growth has occurred between 2005 and 2007 in this e-consultation/collaboration e-space component (Appendix Seven, Table G.2.43). Ten percent of all WA councils in the sample had specific consultation modules on their websites in 2003. This increased slightly in 2005 to 14% of sites, but 31% of council sites had implemented this e-space component by 2007, 11% of them with multiple functionality.

Urban councils are the largest users of this type of interaction. Fifty two percent of the councils in the sample offered e-consultation facilities by 2007, compared to 29% in 2005 and 19% in 2003. By contrast, no e-consultation was offered on rural council websites in the sample until 2007,

when 11% of these councils offered a functional e-consultation mechanism. An example of early consultation space development can be seen in ***CottNet***, which first appeared in 2003 on the Town of Cottesloe's website.

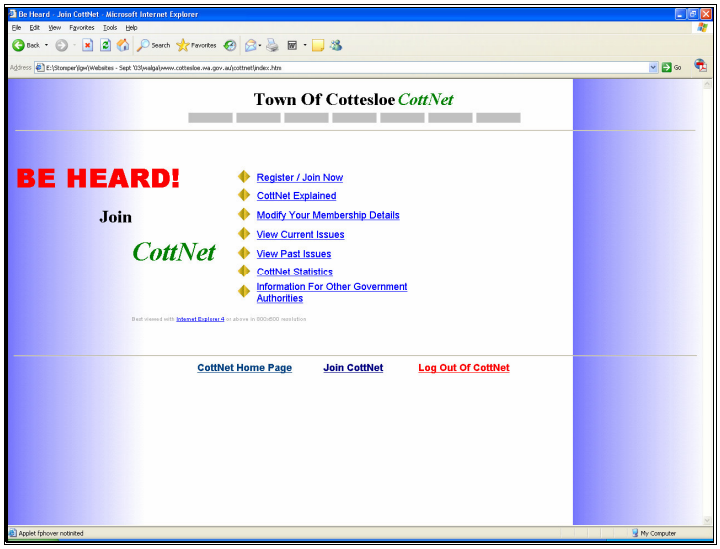


Figure 8-12 *CottNet* public consultation online Town of Cottesloe (UDS) WA, 2003

CottNet was designed as an online feedback system for issues relevant to the Town of Cottesloe in an effort to boost levels of community input. It was aimed at any group or individual with an interest in Cottesloe, with registration via an online form. Feedback was initiated by the Town and responses were confidential, rather than shared with other respondents. It had no group information-sharing functionality other than the provision of summarised results at the conclusion of the process. This facility had disappeared by 2005.

The City of Wanneroo had a separate "Public Comment" section on its homepage in 2003 (Figure 8-13).

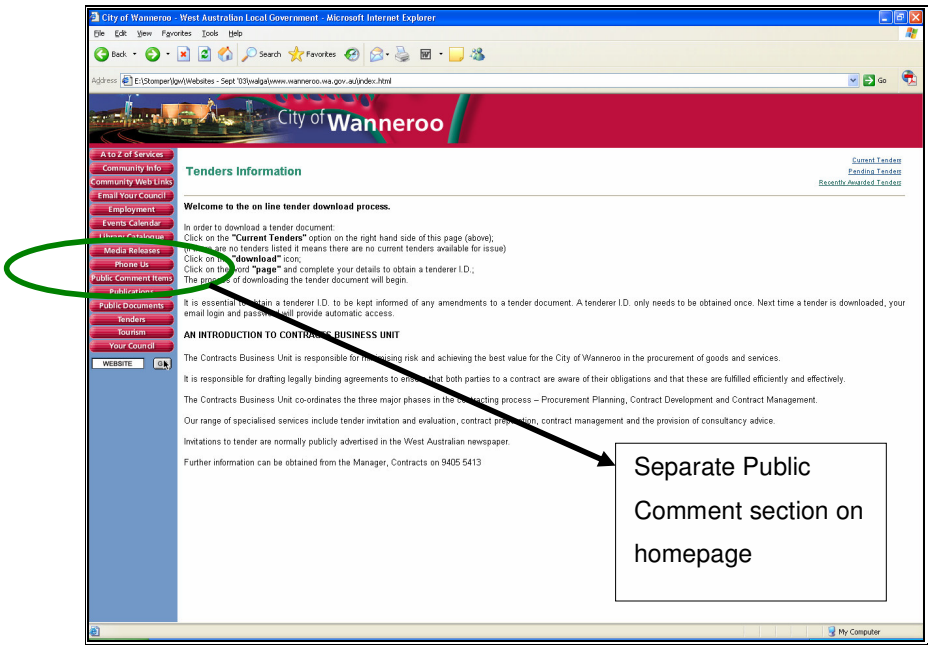


Figure 8-13 Public comment section on homepage City of Wanneroo (UFL) WA, 2003

By 2007 urban councils were implementing sophisticated online consultation mechanisms for community feedback on policy and planning issues with tracking of consultation status (Figure 8-14).

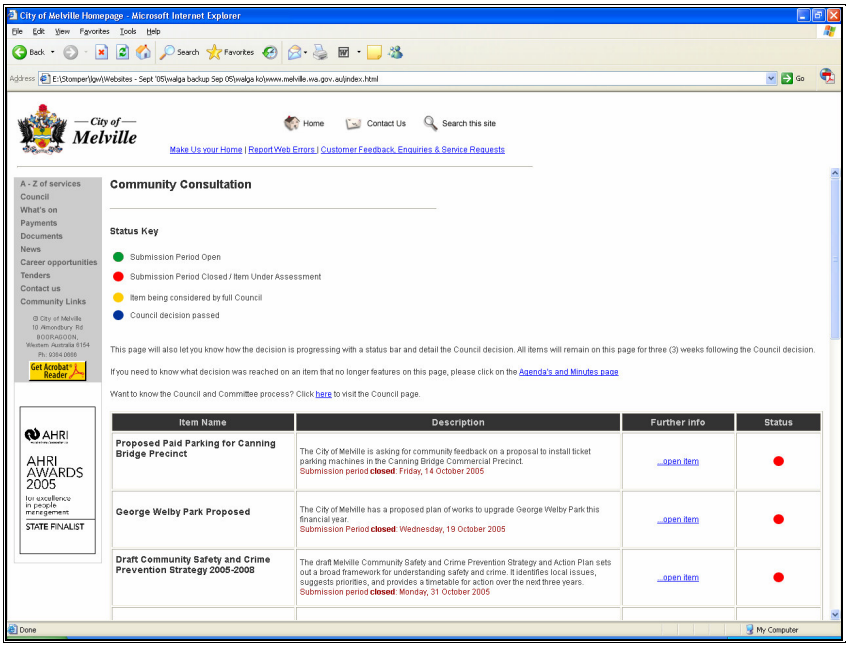


Figure 8-14 Community consultation status information online City of Melville (UDL) WA, 2005

Tips on how to make an effective submission and online submission forms (Figure 8-15) were provided.

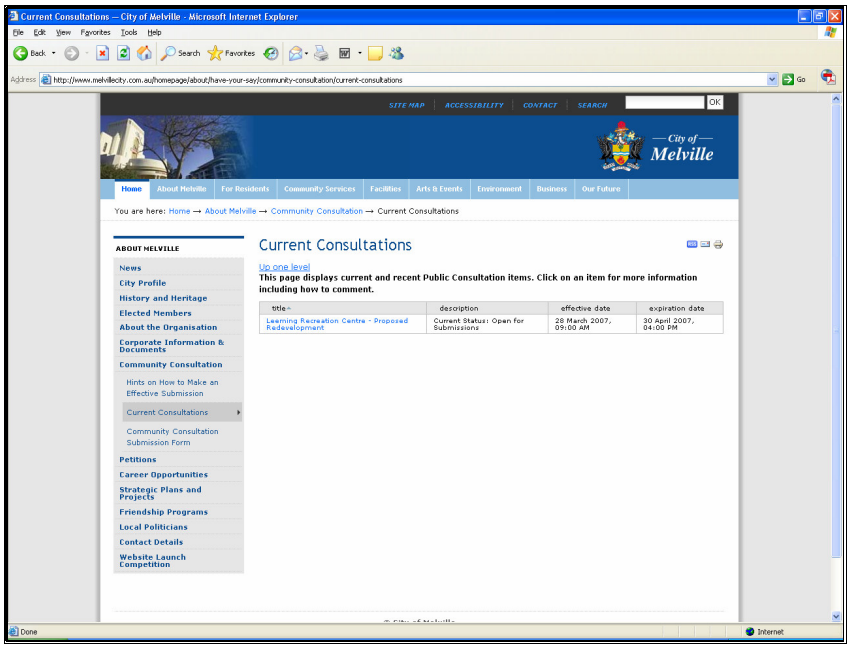


Figure 8-15 Online consultation City of Melville (UDL) WA, 2007

Consultation on particular issues concerning a local area (Figure 8-16) was also offered, providing multiple consultation functionality.

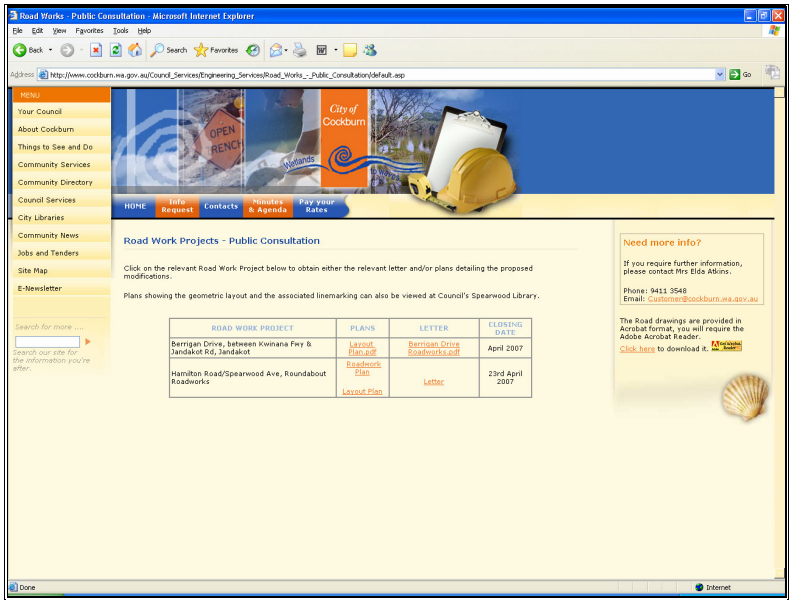


Figure 8-16 Local area issue consultation mechanism City of Cockburn (UFL) WA, 2007

Public Message Board

Public message boards or discussion forums are used in the e-SAT to identify council-initiated online discussion web spaces. These spaces provide an area for members of the community to post comments and replies to topics. They are not common features of council websites. By 2007, only 9% of all councils in the sample had a public message board. Of these, 6% were fully functional and 2% were redundant. While 15% of urban councils had some form of message board, only 4% of rural councils had this facility and in all cases it was redundant.

Figure 8-17 shows an urban council-initiated public message board on a WA council website. Figure 8-18 gives a snapshot of the usage of this board.

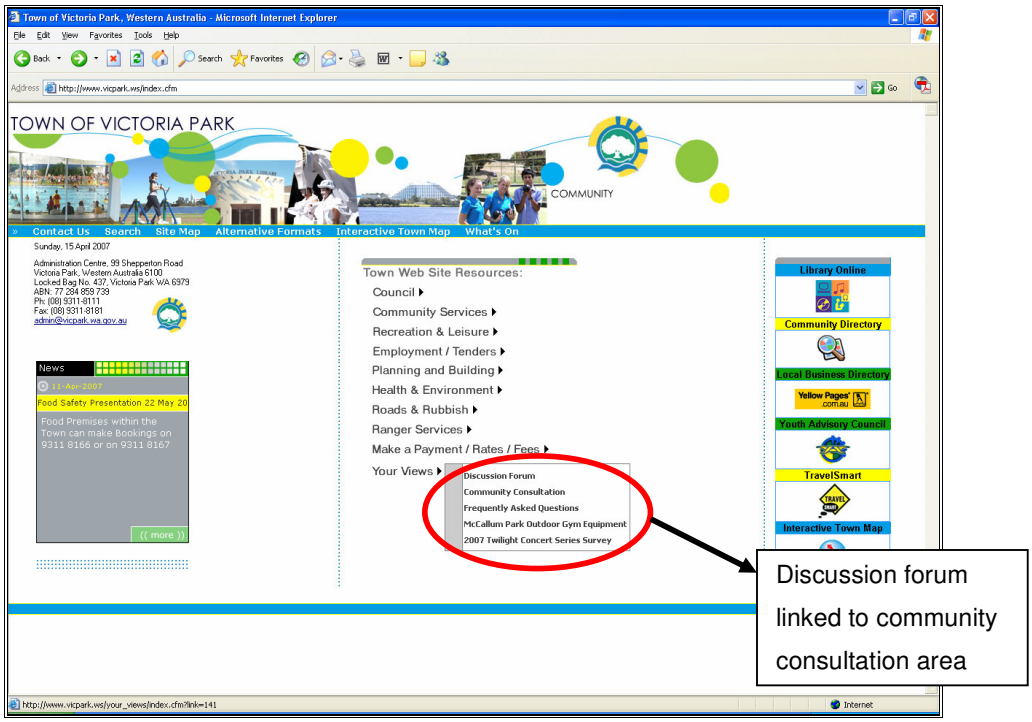


Figure 8-17 Council initiated discussion forum on homepage Town of Victoria Park (UDS) WA, 2007

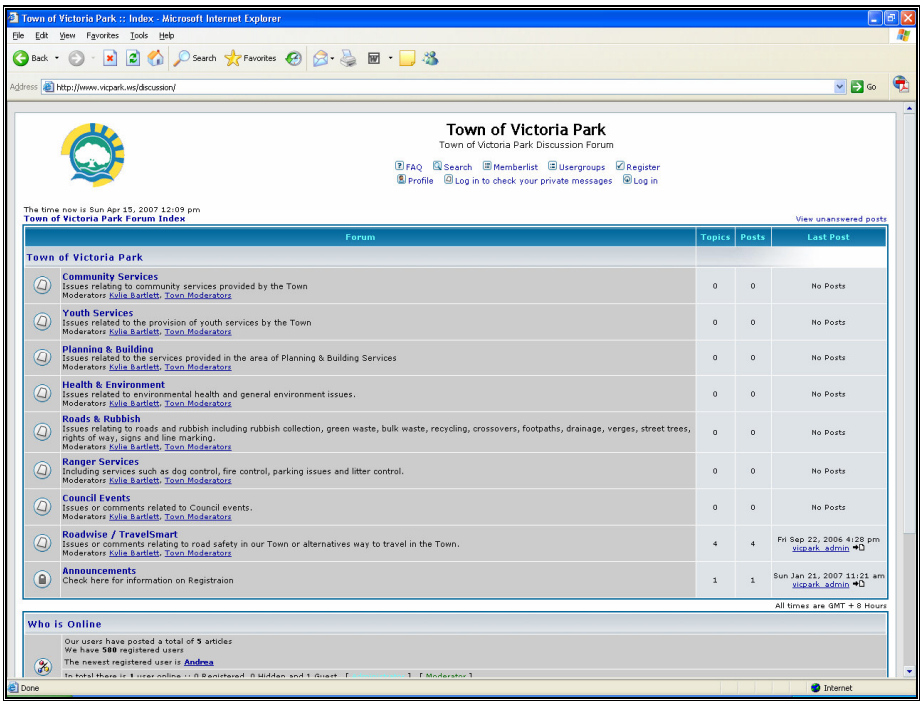


Figure 8-18 Discussion forum posts Town of Victoria Park (UDS) WA, 2007

An example of the use of a public message board by a rural council is shown in Figure 8-19.

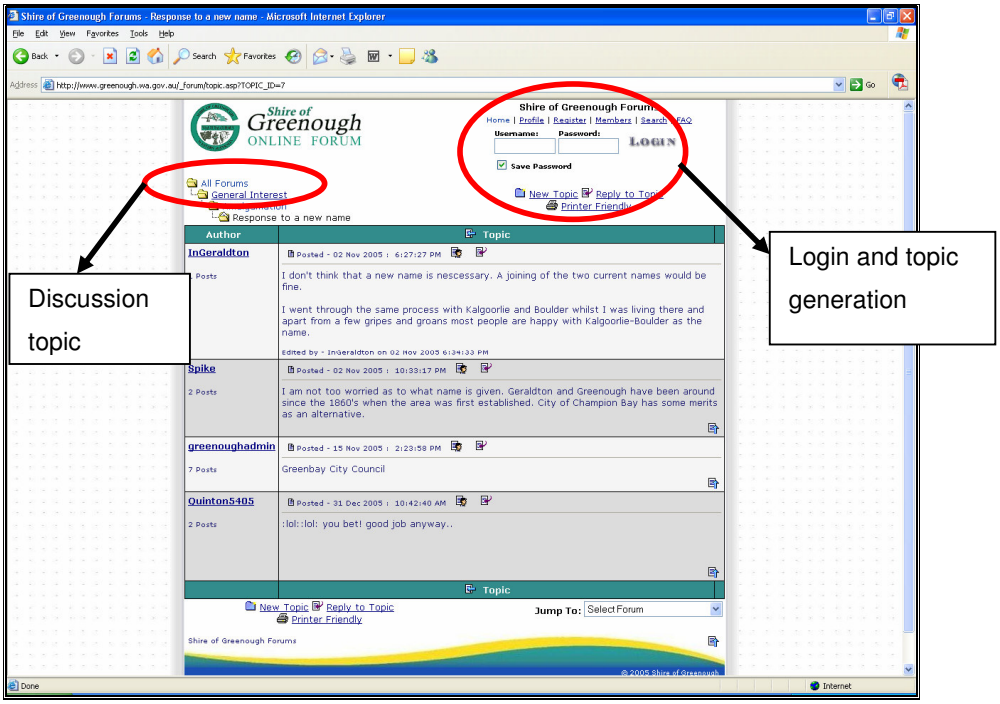


Figure 8-19 Council-moderated public message board Shire of Greenough (RSG) WA, 2005

Kearns et al. (2002) point out the importance of best practice councils facilitating links to e-participation activities led by others in the area, rather than relying solely on creating e-participation on their own websites. Seeking to develop such external linkages is a cybercentric characteristic and is most evident on rural sites where links to community portals including Merredin.com, MySouthWest, Albany GateWay and Ocean2Outback are obvious from 2003 to 2007.

TMT leader interviews conducted for this thesis confirmed that rural TMT leaders are aware of and incorporate use of community portals in their website. Two councils provided a link to these portals from their website. Whilst both of these councils chose not to interact in a formal way through these portals, they were used for access by both councillors and administration staff to access information on community opinion.

Web-casting of Public Meetings

A number of benefits of webcasting council meetings have been identified by *Public-i (http://www.public-i.info)* (Raunik, 2006), including:

- increased trust and transparency
- more engaging democratic content
- effective communication
- improved debate.

This type of streaming can also include interactive components such as polling and realtime feedback from participants via email. According to Raunik, 50 UK councils were using webcasts in 2005. These webcasts were accessed between 300 and 1100 times a month, with usage increasing as archived content is made available.

Only one redundant example of webcasting was located in the sample Western Australian council sites (Figure 8-20 below). This was for a rural council website advertising the launch of a local Expo in the previous year.

Figure 8-20 Webcast of launch of Dalwallinu Environmental Expo Dalwallinu (RAS) WA, 2005

Online Surveys/Questionnaires

The use of this type of consultation mechanism increased dramatically between 2005 and 2007. In 2003 and 2005, only 2% of the sample councils had an online survey. However, by 2007 4% of councils had a token online survey facility while 15% had at least one functional example.

In 2005, the rural Shire of Manjimup offered an interactive version of a survey via email request to an officer (Figure 8-21).

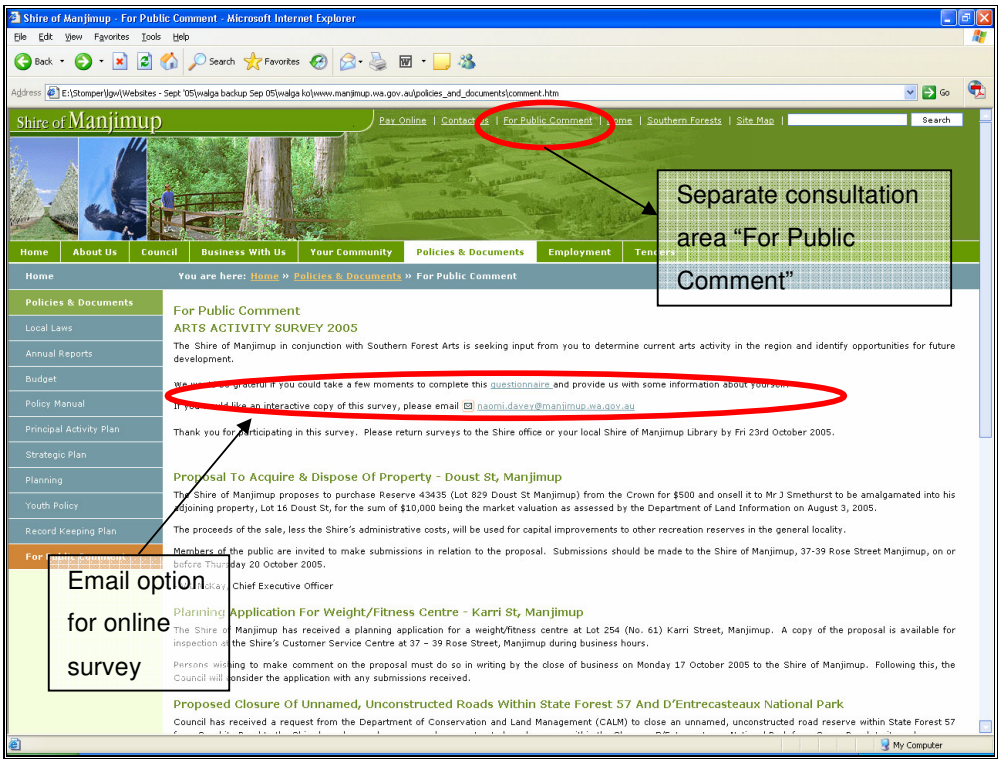


Figure 8-21 An early version of an online survey Shire of Manjimup (RAV) WA, 2005

By 2007, 19% of WA councils are seeking direct online survey input from both citizens (Figure 8-22 and Figure 8-23) and business (Figure 8-24).

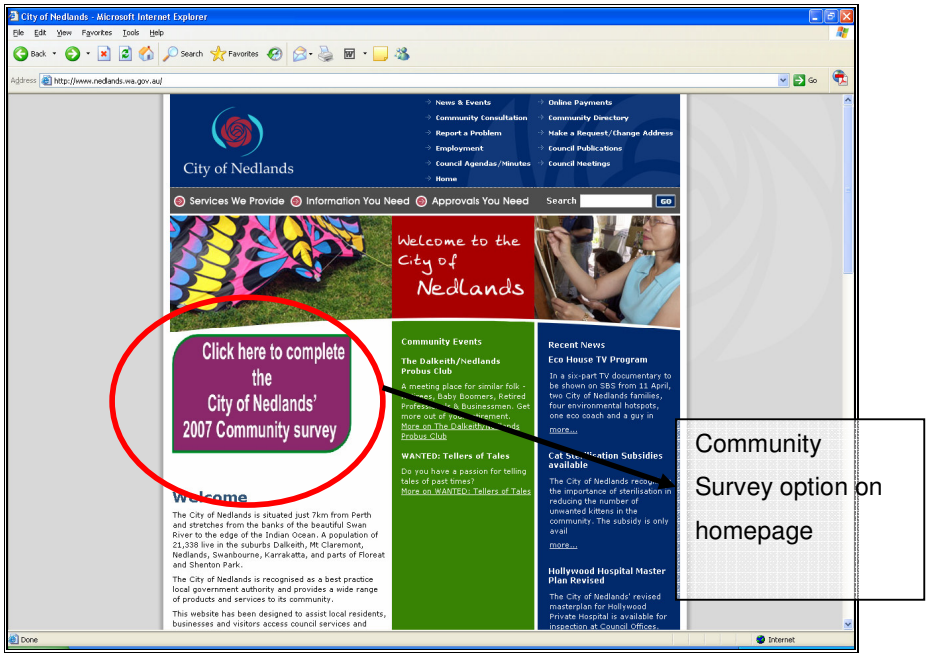


Figure 8-22 Seeking input from citizens City of Nedlands (UDS) WA, 2007

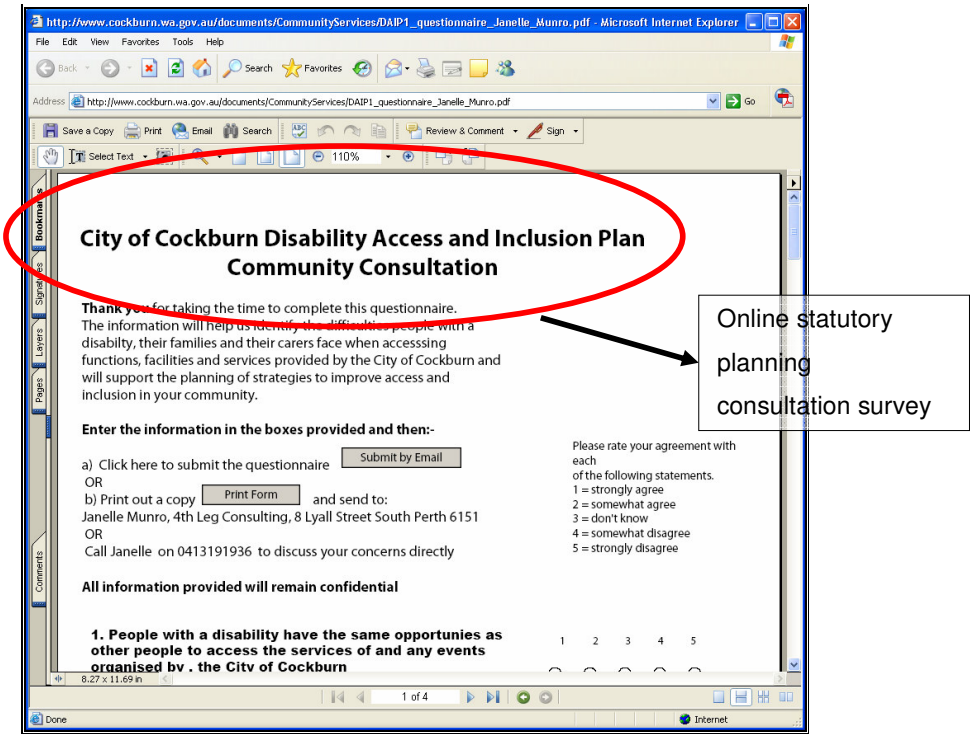
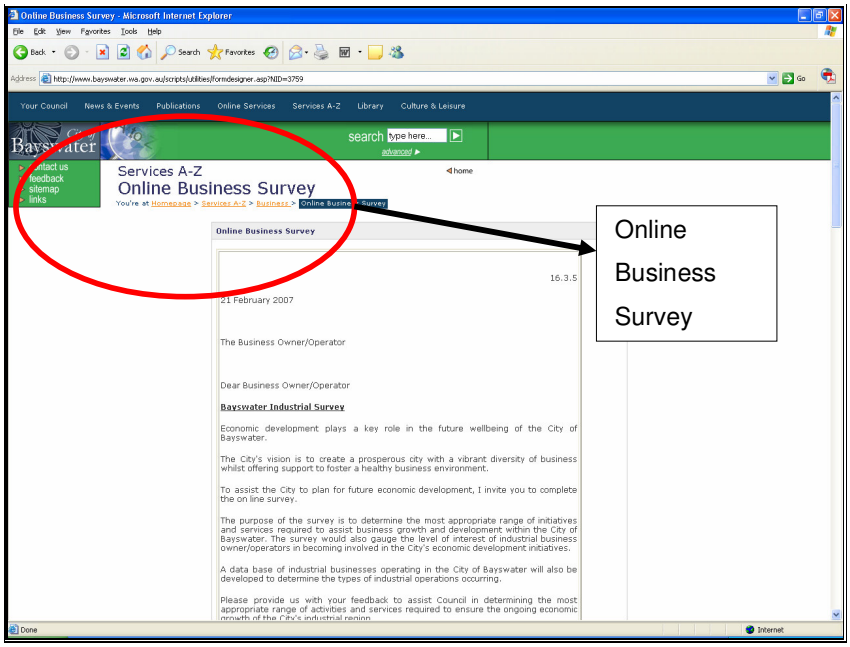


Figure 8-23 Seeking input on statutory planning City of Cockburn (UFL) WA, 2007



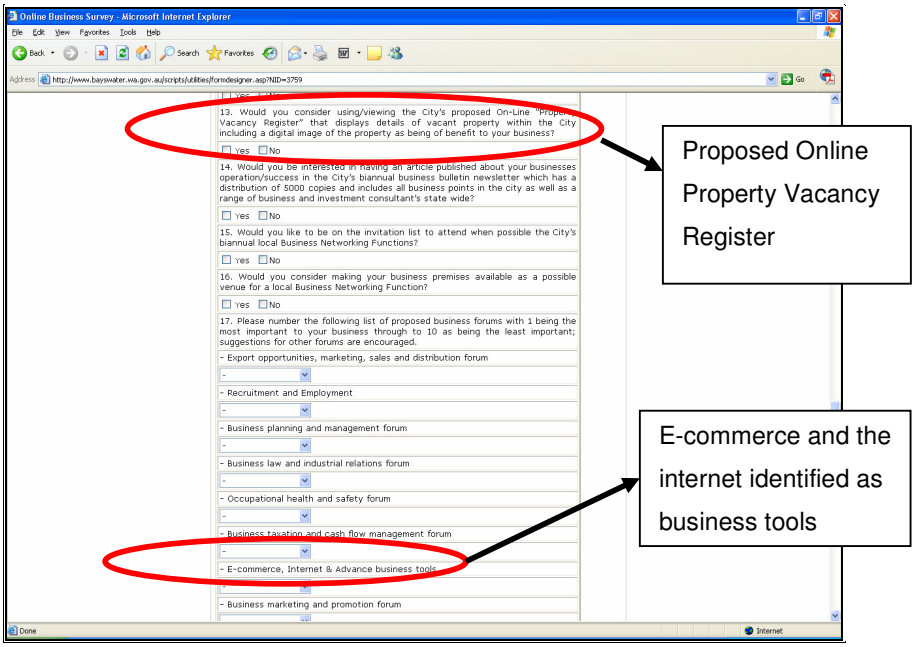


Figure 8-24 Seeking input from businesses City of Bayswater (UDM) WA, 2007

Email to Elected Members

This component of e-consultation includes not only the use of email, but also of online feedback mechanisms (such as feedback forms) specifically designated for councillors. Between 2003 and 2007 this component has grown both in frequency and functionality, with email addresses being supplied for all councillors, as well as a general contact email or a specific feedback form. In 2003 for example, one urban regional council included a general councillor email address as well as specific addresses and an easy selection mechanism (Figure 8-25).

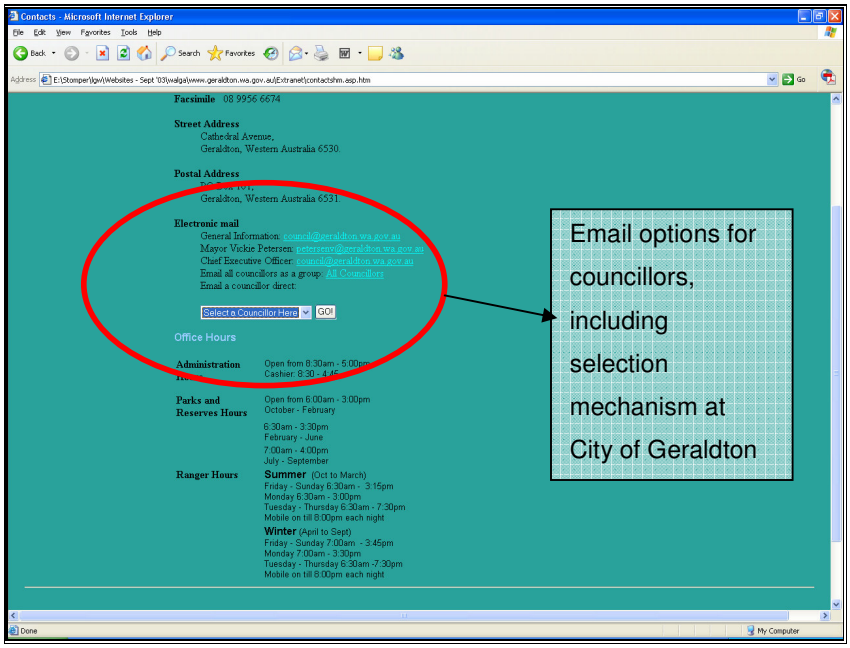


Figure 8-25 Councillor contact methods City of Geraldton (URS) WA, 2003

Urban councils have a far higher use of this type of contact mechanism than rural councils. Both groups show contraction in this space, rural councils showing this to a greater degree than urban councils.

Web Discussion Spaces

Although no citizen-led web discussion spaces were observed on the sample council websites, some rural and urban regional councils facilitate a link to their local external community portal from the council website. This may provide a cost effective mechanism for encouraging community interaction without the expense of developing this interaction from the council website, even if some contribution towards development of the portal is made by the council.

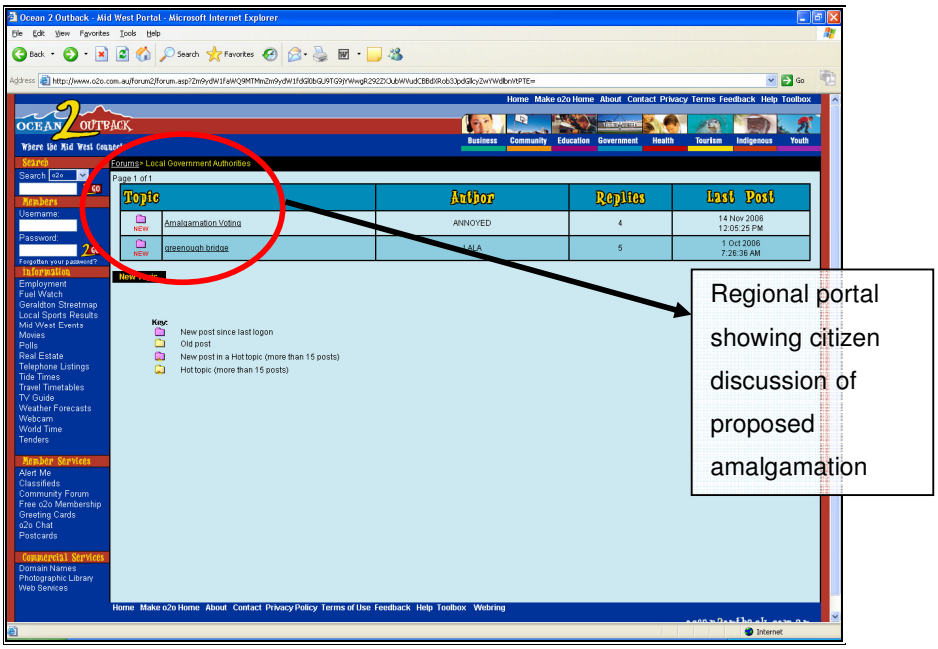


Figure 8-26 Local community portal web discussion space accessed from Geraldton council website (URS) WA, 2007 (*see* Figure 8-19 *for the same topic being discussed on a council-led website public message board)*

By 2007 this section of the e-consultation space appears to have contracted, from 7% of councils with some form of online discussion link in 2005 to only 2% with such a link in 2007. Whilst both urban and rural councils have contracted this space, the lack of redundant examples on urban council websites suggests this facility has been deliberately removed.

Figure 8-27 shows Boyup Brook Shire website had been outsourced to the local community portal group (MySouthWest) by 2005, renamed Boyup Brook Online, and included citizen-driven web discussion spaces.

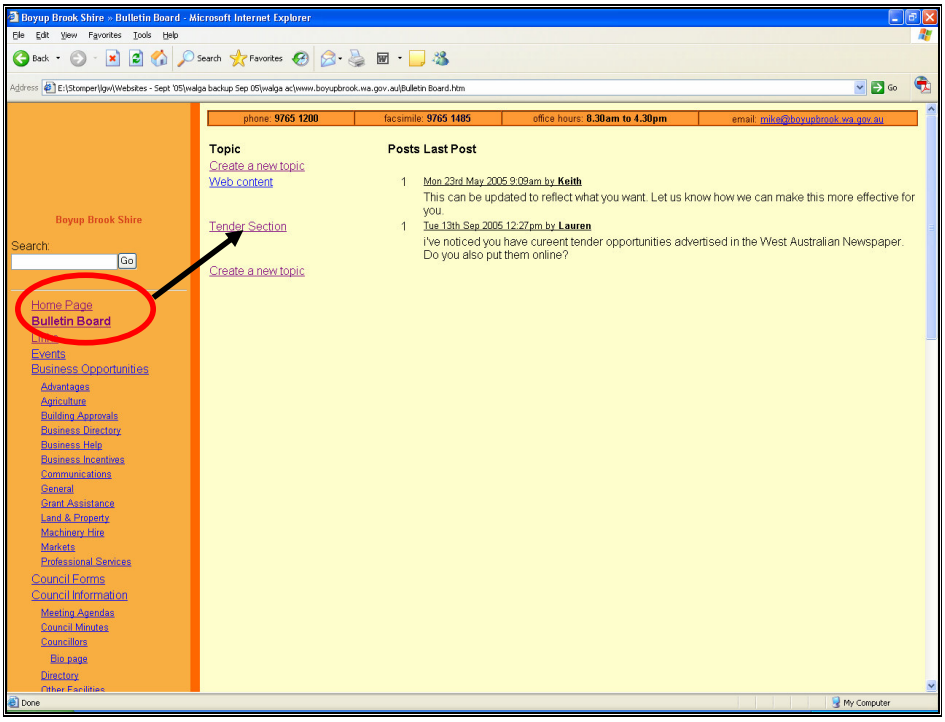


Figure 8-27 Council website incorporating web discussion space Boyup Brook Online (RAS) WA, 2005

8.3.2 e-Participation

This e-space provides a mechanism for online sharing of information and ideas and has a knowledge-sharing basis. The e-participation components incorporate the following principles of the IPPR Good Practice Guidelines (Kearns et al., 2002) including:

1. Marketing (publishing e-participation initiatives to citizens and customers)
2. Responsiveness (mechanisms for responding to feedback and input)
3. Published rules and guidelines (moderated web discussion spaces)
4. Privacy
5. Working in partnership to develop spaces addressing community requirements

Table 8-9 shows that all councils in the sample were *partially prepared* to interact with citizens and business by 2005, but progress has remained static overall. The individual components of the e-space have expanded to

different degrees between 2003 and 2007 except the online polls component, which contracted in 2007.

Table 8-9 Time series analysis – e-Participation e-space

	2003			2005			2007		
	NP %	PP %	FP %	NP %	PP %	FP %	NP %	PP %	FP %
e-Participation	2	98	0	0	100	0	0	100	0

Web discussion spaces and email contact with officers and elected members have been discussed previously. The remaining features of the e-participation e-space related to privacy statements, availability of electronic news formats, online subscription facilities and the presence of online polls are discussed below.

Appendix Seven, G.2.6 shows the comparative frequency and functionality of the e-Participation e-space components on council websites.

Privacy Statement

Privacy statements are a necessary component of the provision of a secure environment to encourage online interaction. Thorough and easily located statements of council data-gathering practices are a requisite component of the online trust relationship between citizens, customers and councils.

Overall, this e-space component is not well developed, with privacy statement provision on the sample sites low. This was noted particularly in relation to those council websites using the Linking Councils and Communities template. A slow expansion of this e-space component was observed over the time series. In 2003, no privacy statement was provided on 87% of sites. This decreased to 80% in 2005 and 76% in 2007.

By 2007, some WA councils in the sample are beginning to put more than one privacy statement on their site, with explicit information relating to different areas. Some redundancy was observed in this e-space component, 4% of all sample sites using a statement that was not current. The number of sites providing token, brief privacy statements only increased from 2% in 2003 to 9% in 2005, contracting slightly to 7% in 2007.

Rural councils lag urban councils significantly in implementing privacy statements on their websites. Initially this may have been related to the lack of interactivity of these sites, but with the development of online interaction privacy statements are necessary to reassure customers and citizens of the security of their data and its potential use by the council.

E-news and newsletters

This e-space component assesses the availability of online news. This may take many forms, including newsletters, media releases, business bulletins, events calendars or pages to which the community is invited to contribute. It fulfils an information-sharing role in the context of the local community and therefore facilitates e-participation.

Rapid and sustained growth in the provision of this component of the e-participation space was observed. In 2003 33% of all councils in the sample had some form of e-news. This increased to 68% in 2005 and 91% in 2007. Both the frequency and functionality have increased in this time, with 60% of all councils offering multiple examples of the component compared to 12% in 2003.

Initially urban councils implemented this component to a greater degree than rural councils over the time series, with 36% of all urban councils in the sample exhibiting e-news in 2003 compared to 14% of all rural councils. By 2007 93% of urban councils in the sample and 91% of rural councils offered e-news. However, 78% of urban councils offered multiple functionality in the component compared to 43% of rural councils.

E-subscription

This e-space component has grown steadily in WA councils overall from 8% of all councils in 2003 to 11% in 2005 and 16% in 2007. During this time both the functionality and frequency of the component increased. However, urban councils are the largest user of this component of the e-participation space, with 5% of urban councils in 2003 increasing to 30% in 2007. The functionality of the e-subscription component has also increased by 2007 with 15% of urban councils offering multiple e-subscription opportunities. By contrast, this component remained basically static between 2003 and 2005, contracting in 2007.

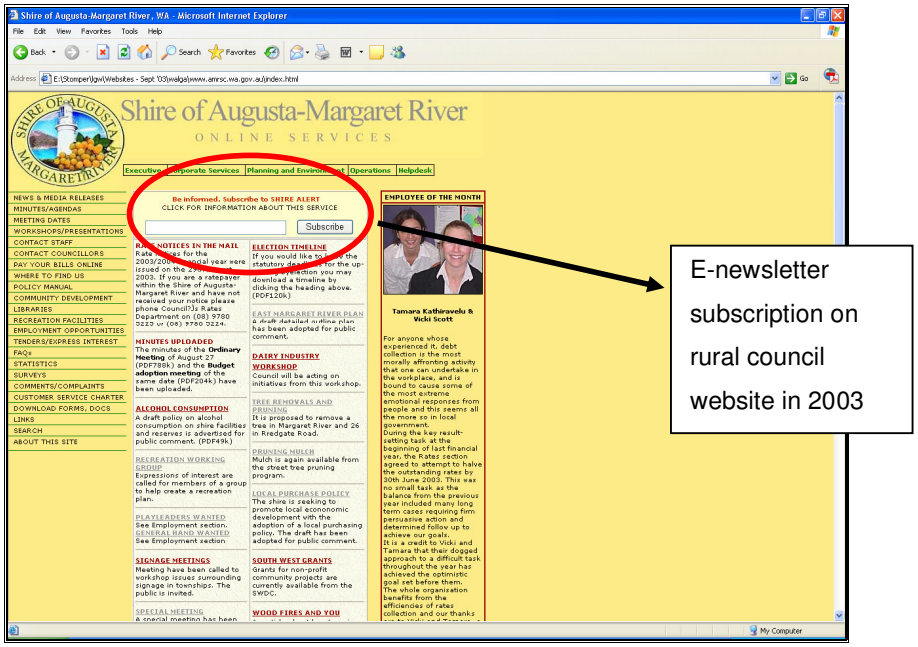


Figure 8-28 E-newsletter subscription Town of Augusta-Margaret River (RSG) WA, 2003

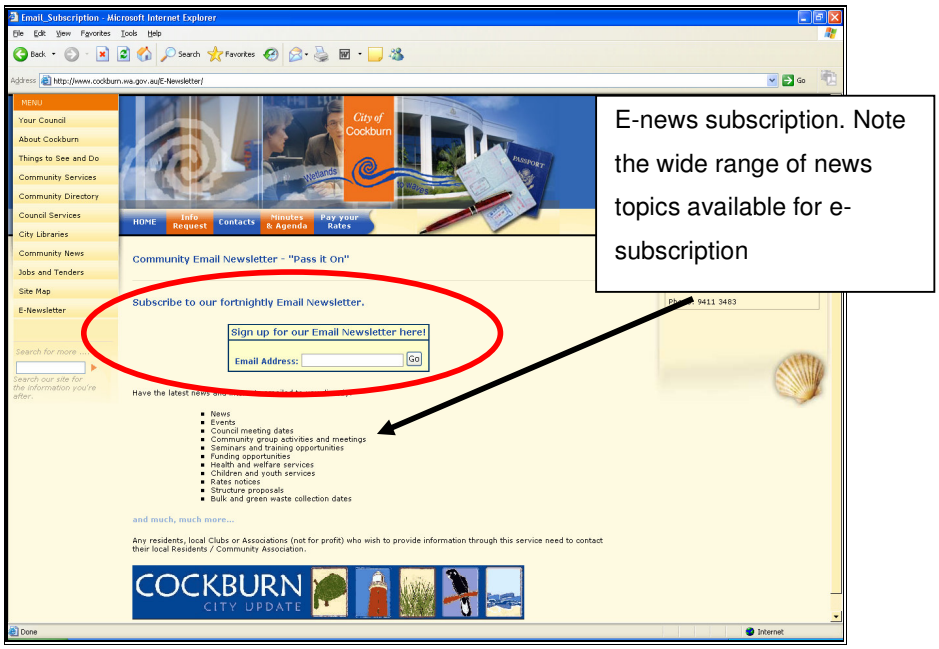


Figure 8-29 E-news subscription City of Cockburn (UFL) WA, 2007

Urban councils are beginning to provide multiple subscription opportunities. Examples include the City of Cockburn's e-subscription service (Figure 8-29) and the City of Joondalup's job alert service (Figure 8-30).

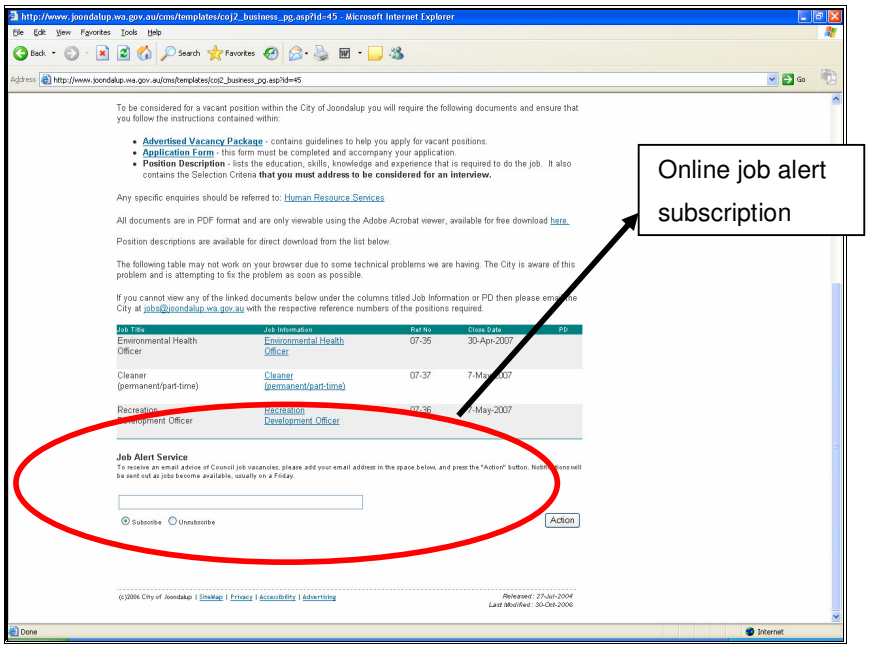


Figure 8-30 Job Alert subscription, City of Joondalup (UFV) WA, 2007

The City of Melville is experimenting with use of Really Simple Syndication (RSS) as a subscription method (Figure 8-31).

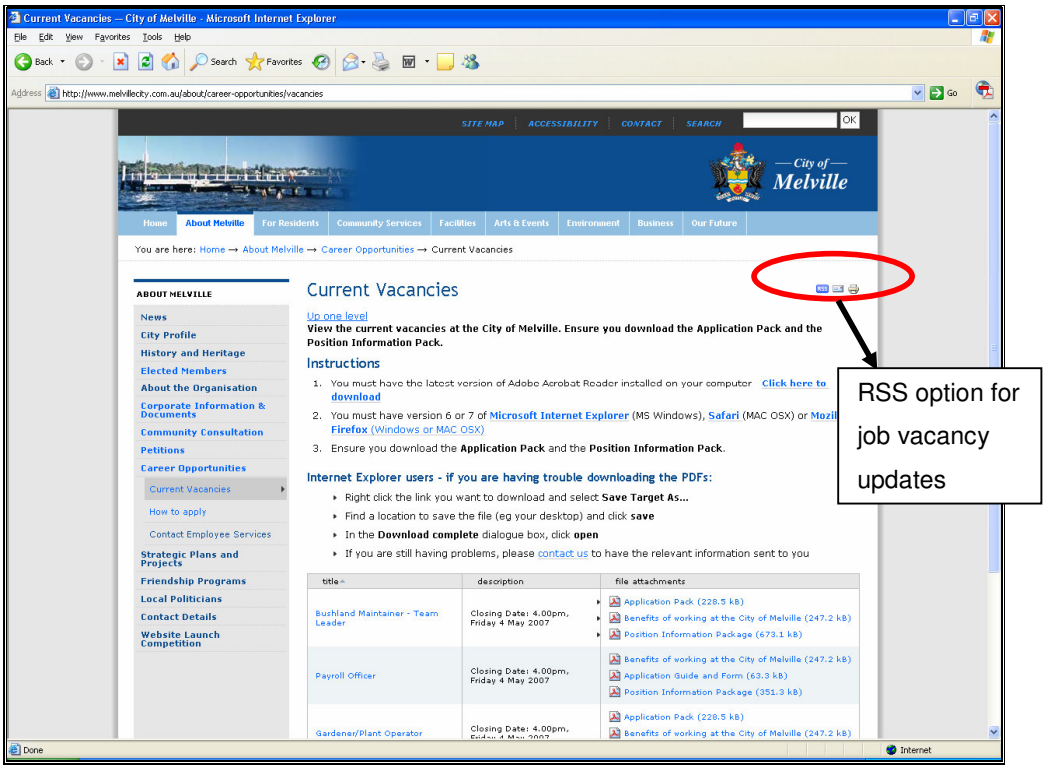


Figure 8-31 RSS for employment updates, City of Melville (UDL) WA, 2007

Online polls

This tool affords the option for the community to provide fast, informal opinions and feedback. Although not well-populated, between 2003 and 2005 the e-space expanded, with 7% of sample councils providing this facility for targeted feedback. However, this contracted in 2007, with this e-space component observed on only 2% of sites. Use of such tools is still infrequent.

Rural councils in the sample were the first to use this tool, evident in 4% of 2003 rural sites. Urban councils utilised it more extensively in 2005, with evidence of online polls in 10% of the urban councils in the sample, compared to 4% of the rural councils in the sample.

8.3.3 e-Networks

The components of this e-space identify the level of preparation for citizen and council led interaction, the exchange of knowledge and information and the security of the online environment in which this occurs. These components are considered cybercentric, as they involve collaboration as well as contributing to the *"pull"* aspect of the CCDG model.

Table 8-10 shows that overall all WA councils in the sample are partially prepared for e-networks interaction. However, while this e-space is developed to a limited extent, there are no councils which are fully prepared.

Table 8-10 Time series analysis – e-Networks e-space

	2003			2005			2007		
	NP %	PP %	FP %	NP %	PP %	FP %	NP %	PP %	FP %
e-Networks	2	98	0	0	100	0	0	100	0

The components of this e-space held in common with other e-spaces (i.e. privacy statement, discussion spaces, e-news and e-subscription and email contact with officers and elected members) have been discussed previously. The remaining features of the e-Networks space related to online communities of practice, blogs, use of e-petitions and presence of community portals are discussed below. Identification of these components on some council websites indicate the tentative establishment of this e-space, alongside that of e-participation and e-consultation, is occurring albeit in a limited and organic way.

Appendix Seven, G.2.7 shows the comparative frequency and functionality of the Tranform e-space components on council websites.

Online Communities of Practice

Online Communities of Practice (OCoPs) facilitate the exchange of information, experience and ideas within a network. In the local government context, this might involve provision of online discussion spaces and web pages for community groups such as Precinct and Residents' Groups or for business groups. Interaction to facilitate sharing in an online environment is the main focus with such groups, not simply information dissemination or contact details for these groups. No examples of OCoPs were found on WA council websites.

e-Petitions

The use of e-petitions was first noted in the 2007 assessment, when 2% of sample councils had used this component of the e-space. This represented 4% of urban councils in the sample.

An example of the use of an e-Petition as a community engagement tool to assess public support for a project is shown in Figure 8-32. There has been no development of this e-space component by rural councils over the time series.

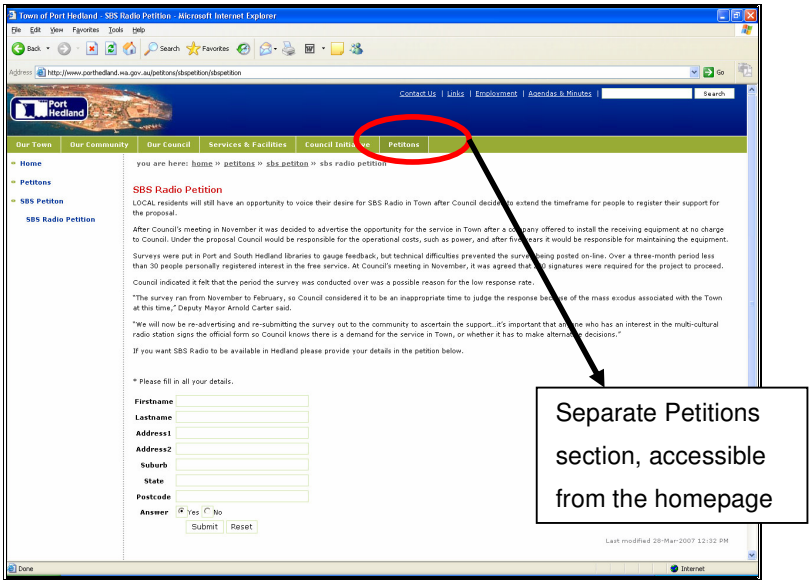


Figure 8-32 e-Petition Shire of Port Hedland (URS) WA, 2007

Blogs

The use of blogs was first noted in the 2007 analysis when the City of Swan website showed functional use of this component of the e-space in the form of a *CEO's Blog* area, commenced in 2006 (Figure 8-6).

Community Portal

Web portals provide access and links to other web pages. A community portal implies the ability for community interaction in this online environment. Several community portals were noted in the time series analysis, including Merredin.com, MySouthWest, Albany Gateway, Ocean2Outback, along with BROC (Batavia Regional Organisation of Councils). Linking to these portals is seen by rural TMT leaders as an effective mechanism for providing this type of interaction without developing and locating duplicate portals on the council website (*see* Chapter 9).

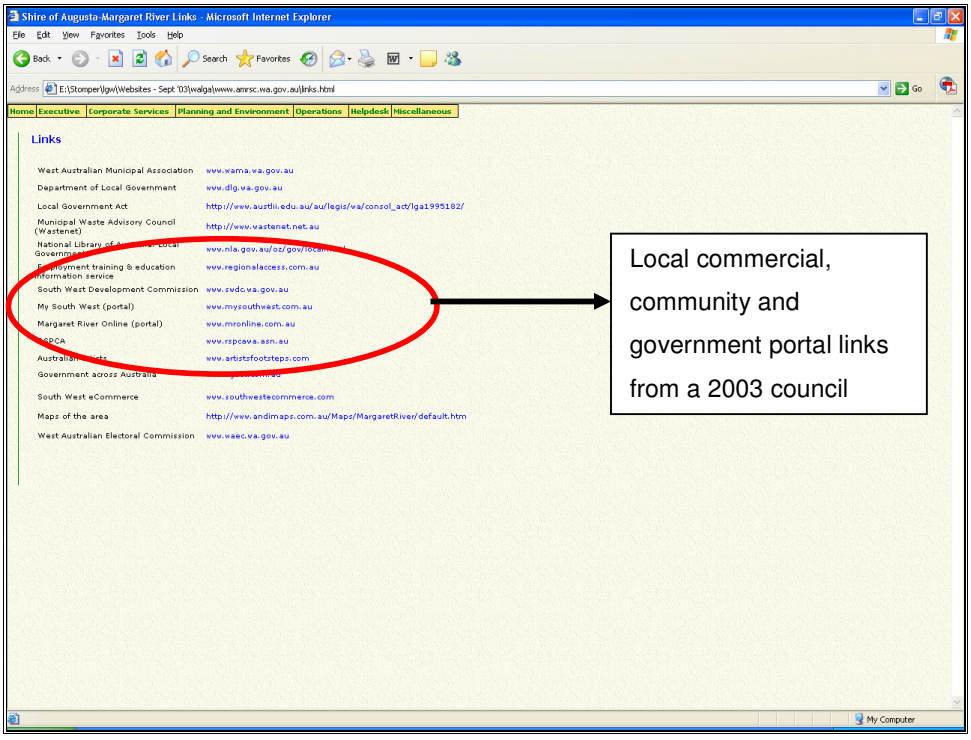


Figure 8-33 Community portals link Augusta-Margaret River (RSG) WA, 2003

Community portal links were observed on sample council websites as early as 2003 (Table G.2.77). For example, Figure 8-33 shows links to the South West Development Commission, MySouthWest and Margaret River Online portals on the Augusta-Margaret River website. This e-space component has expanded slowly on urban council websites in the sample from 9% in 2003 to 14% in 2007 (Table G.2.78). However, this component has stabilised on rural sites having contracted from 12% in 2003 to remain basically constant at 9% of rural councils in 2005 and 8% in 2007 (Table G.2.79).

8.3.4 e-Democracy

e-Voting
Binding Online Polling

Table 8-11 shows that no WA councils exhibited e-Democracy e-space components at any point of the time series. Neither e-voting nor binding online polling was evident on any of the sample sites.

Table 8-11 Time series analysis – e-Democracy

	2003			2005			2007		
	NP %	PP %	FP %	NP %	PP %	FP %	NP %	PP %	FP %
e-Democracy	100	0	0	100	0	0	100	0	0

8.4 Mapping CCDG capacity

8.4.1 Western Australian council e-space development 2003-2007

Figures 8-34 to 8-36 map the development analyses presented above of the e-government and e-governance e-spaces on WA council websites between 2003 and 2007 and illustrate the dynamic and organic nature of these spaces.

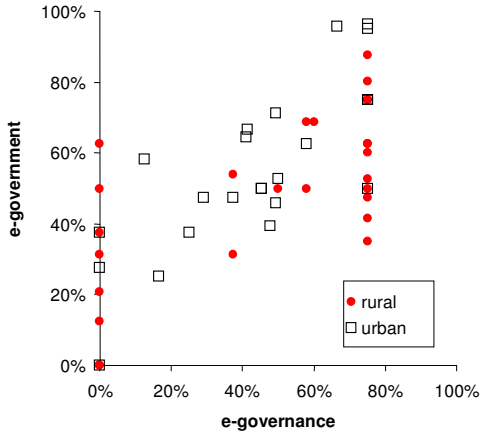


Figure 8-34 Council web functionality 2003

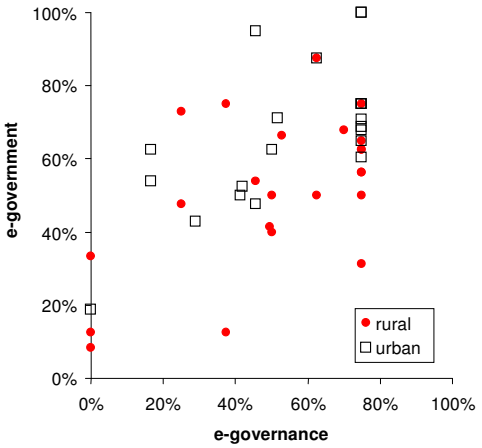


Figure 8-35 Council web functionality 2005

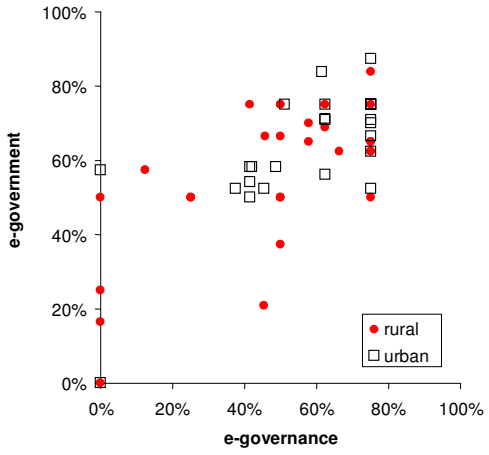


Figure 8-36 Council web functionality 2007

Whilst progress towards full implementation of both facets of digital government is being made overall, Figure 8-35 shows the overall contraction in the e-governance e-spaces in 2005 discussed individually above. Figure 8-36 shows the gradual expansion of these e-spaces in 2007, confirming the capacity of the e-SAT to identify and characterise shifts in application of e-space components on council websites.

8.4.2 Mapping digital government in Western Australia

The degree of e-government and e-governance functionality exhibited by the sample Western Australian councils in 2007 is represented geographically in Figure 8-37 and Figure 8-38. The maps represent the geographic boundaries of the councils in the sample analysed in this chapter.

As can be seen, the demographics of a particular council do not necessarily determine its level of functionality. Although some rural councils are demonstrably less prepared than their urban counterparts, this is by no means universally true. This illustrates the organic and uncoordinated nature of Western Australian local government preparation for meeting the requirements of providing digital government. An argument

can be made for a scaffolding program based on geographic boundaries to ensure coordinated development of local e-government in Western Australia. Lack of coordinated guidance, human and financial resources and leveraging of infrastructure developed by larger councils and programs may be the basis for such *ad hoc* development.

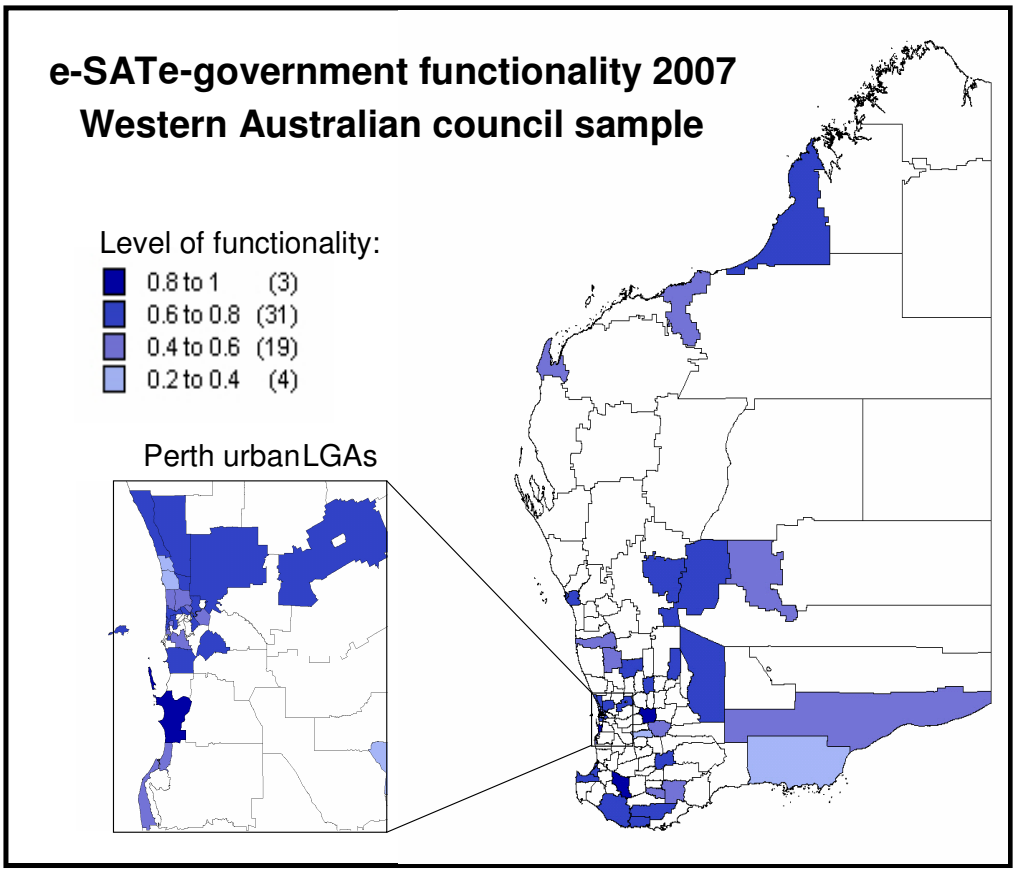


Figure 8-37 WA local government e-Government functionality 2007 – sample councils

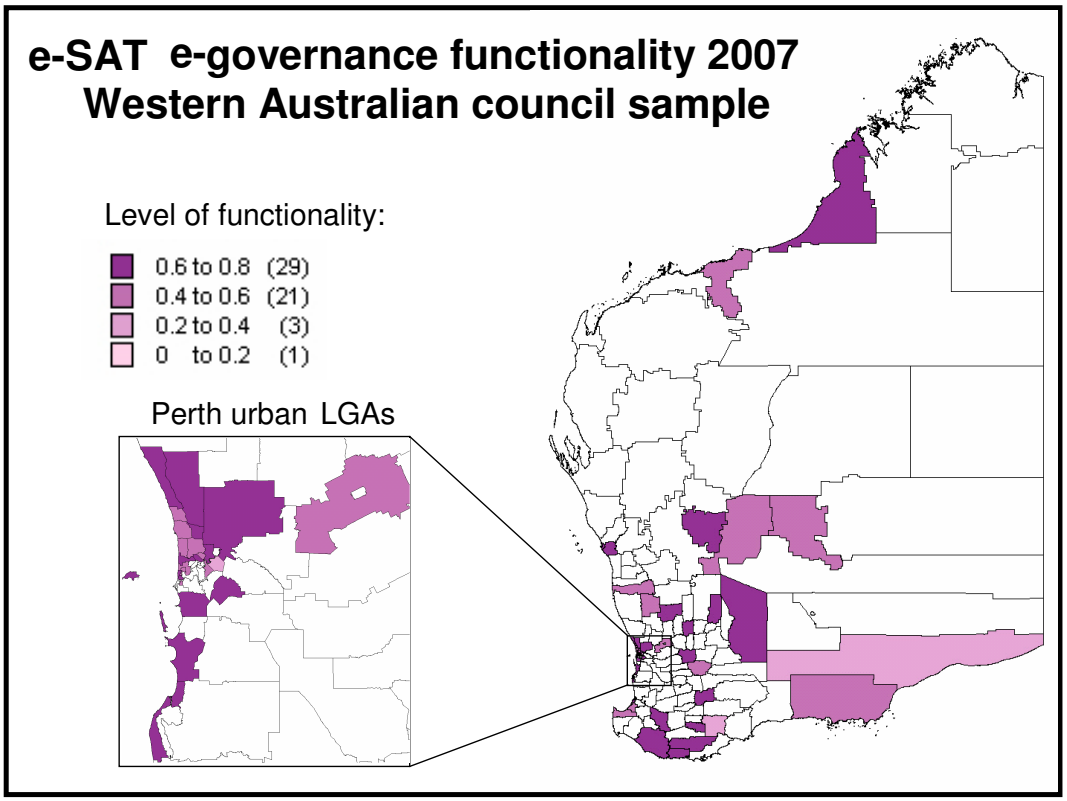


Figure 8-38 WA local government e-Governance functionality 2007 - sample councils

8.5 Discussion

This chapter presented the results from e-SAT assessment of council websites in Western Australia between 2003, 2005 and 2007.

The Australian Special Minister of State stated recently that the federal government is moving towards the implementation of e-democracy *(Australian Government Information Management Office (AGIMO), 2007)*. At almost the same time, the Western Australian Office of e-Government released the state government's strategy entitled *Citizen-Centric Government: Electronic Service Delivery Strategy for the Western Australian Public Sector* (Office of e-Government, 2007).

Government websites will increasingly exhibit characteristics of both e-government and e-governance as progress is made toward the implementation of digital government predicted by Dunleavy et al. (2006). The WALGA *Linking Councils and Communities* program commenced in 2001, using federal funding from the *Networking the Nation* initiative. The program utilises a shared services approach to the provision of online tools and infrastructure for councils. A number of project areas were identified:

1. Education and Training
2. Internet and Extranet Enablement
3. Online Billing
4. eProcurement
5. Geographic Information System
6. Telecommunications Infrastructure

Initially the program focused on providing an online environment for rural councils. This service is now being offered to urban councils. Similar programs exist in other states of Australia, including Online Action for NSW (Local-e) and Queensland's LGOnline.

The e-SAT, developed in this study, was utilised to extend previous website assessments which relied on NPM-derived tools focused on e-government service delivery. A multi-dimensional picture of the e-spaces on the website was examined, including the frequency and functionality of the e-space components identified.

The effectiveness of the e-SAT in identifying change in council websites e-spaces was confirmed. e-SAT output was also used to provide a benchmark map of the level of e-government and e-governance demonstrated on the sample WA council websites. The tool was shown to be sensitive to small changes, produced consistent results at all levels and detected growth and contraction in the e-spaces over time.

Various components of e-government and e-governance were studied. The dynamic nature of the e-space was confirmed, with some components contracting and expanding over time. The concept of redundancy of e-space components was also confirmed. The development of e-government and e-governance by WA councils was mapped, illustrating the organic and dynamic nature of this development. The TMT leader interview responses presented in Chapter 8 provide CCDG context for these observations.

e-SAT assessment confirmed the survey results observation of lead and lag councils with lead and lag implementation of e-government and e-governance evident. In all areas, urban councils (defined by ACLG code) are leading rural councils in this implementation.

The e-SAT assessments are compatible with those provided by these previous tools, while at the same time benchmarking for the first time the degree of development of e-governance by WA councils and identifying the organic nature of e-space development on these websites. It was confirmed that WA council websites are developing in a contiguous rather than sequential way and that the e-spaces can change shape over time and according to context. This relates to councils articulating the reason for change as a response to the needs of their communities and may also relate to resource constraints, particularly for rural councils.

No components of e-democracy were found on WA council websites. However, progress to varying degrees in the other components of e-governance has been identified. The intent to progress these areas is further discussed in Chapter 8, where the response of TMT leader case study interviews on the topic of their council website's current and potential functionality is presented.

Council websites are clearly showing development at various levels in the in the e-government and e-governance e-spaces. The cluster analysis reported in Chapter 6 showed elected leaders' attitudes to be the driving

force in cluster formation by councils. These attitudes may also be related to the level of e-space development on council websites.

The cybercentric dimensions of Market Position and Strategic Vision explored in the survey relate to the development of e-commerce, online customer relationship attitudes of TMT leaders, and the provision of virtual and physical channels of choice and therefore the development of the CCDG model of governance.

In the Market Position dimension, the response overall in both 2003 and 2005 to the importance of delivering local government services online was cybercentric. However, the appointed leader response became more firmly cybercentric while the elected leader response became slighty less cybercentric between 2003 and 2005. e-SAT assessment showed development of the Interact and Transact e-spaces overall between 2003 and 2005, significantly so between 2005 and 2007. Little development of the Transform e-space was noted, however over the same period.

With respect to the development of e-commerce relationships, the cybercentricity of survey response seen in relation to providing citizen services online was not as evident with elected leaders, who were initially more cybercentric than appointed leaders but became less so in 2005. e-SAT assessment showed that e-space components relating to e-commerce such as integrated supply chains, information and business portals were not developed. Those components present in 2003 declined between 2005 and 2007.

Survey questions related to the Strategic Vision cybercentric dimension explored strategy development intentions for incorporating e-commerce into future interaction with customers (including citizens, ratepayers, businesses, sporting groups, community groups) and suppliers and the intention of the council to act in a virtual as well as physical environment.

In 2003, the view for both elected and appointed leaders towards incorporating e-commerce in future interaction with customers was cybercentric. However, appointed leaders became more polarised in 2005, with a smaller shift to the more geocentric area of the continuum at the same time as a larger shift towards the cybercentric location on the continuum.

Similarly, in relation to suppliers, there was a spread in 2003, elected leaders being slightly more cybercentric than appointed leaders. However, in 2005 the response had become more even over the continuum and more congruent between the groups. This shift in response was due mainly to the appointed leaders, accompanied by a small increase in the geocentrism of elected leaders.

In this period, e-SAT analysis showed overall growth in the frequency and functionality of elements of e-commerce related to citizens, ratepayers and businesses such as payments online and online tenders was identified. However, the online tenders e-space contracted in 2005, in line with the survey responses, before expanding again in 2007. It was also noted that urban councils had implemented these components to a far greater degree than their rural counterparts.

The survey response to the intention of the council to operate in a virtual as well as a physical environment was cybercentric in 2003, with elected leaders most cybercentric and a significant neutral response. In 2005 the response became more congruent between the leader groups, with those appointed leaders who were cybercentric in 2003 becoming more so in 2005. Between 2005 and 2007 significant e-space growth occurred in relevant website components such as e-consultation, online payment, online feedback methods including online form submission and email to officers, however email to councillor options contracted significantly in this period, perhaps reflecting the significant neutrality of the survey response.

In relation to the importance of the development of a customer-focused relationship in successfully delivering outcomes, the response of both leader groups was strongly cybercentric in both 2003 and 2005, with both groups becoming more cybercentric in 2005. Whilst significant e-space development occurred over the period, particularly in the Interact component of e-government, development of the e-CzRM/e-CRM component with citizens and business progressed at a slower pace, possibly due to the considerable financial commitment required to provide such systems.

Although valuable in providing assistance to rural councils to develop an online presence, generic programs such as LCC can lead to restriction of growth due to the use of a common basic template. This program may achieve accelerated gains through providing content management assistance and enhanced website templates and plug-ins to overcome the resource shortages particularly evident in rural areas and make these websites a citizen-centric tool for local government.

The dynamic nature of council website e-spaces and the organic growth of digital government in WA councils identified in this chapter suggest a role for local government peak bodies in sourcing and using funding programs to ensure all councils are assisted to develop their websites in a planned manner which maximises their return on investment. This will be particularly necessary in light of the cost-shifting pressure being identified by local government if this level of government is to assist state and federal governments in their stated goals of implementing citizen-centric government and e-democracy.

9 THE CCDG CONTEXT: TMT LEADER ATTITUDES

9.1 Introduction

This chapter presents the case study TMT leaders' interview responses related to WA council use and development of the e-space. Chapters 5 and 7 detailed the selection of case studies, the identification codes used, characteristics and cluster membership.

Overall, the strategic value of the council website and development of e-spaces such as e-consultation and e-participation was acknowledged, however development of these spaces appeared to be organic and unplanned. The need to continue to provide a choice of interaction methods was also identified. Development of e-Networks and e-Democracy spaces was universally seen as very long term. Awareness of local portals and their potential use as a supplementary community engagement mechanism was high.

9.2 e-Space development and Western Australian councils

All leaders acknowledged growing community use of council websites as information and communication tools. EL2 commented that:

> *"People now, if they have an application … before the meetings they look up the website and see what recommendations [have been made]. So it's no longer the hard copy anymore. It's all websites …. Very, very important."*

This leader felt it was a worthwhile investment and absolutely necessary as it was demanded by the community. This leader had noted a change in communication methods, with 90% of communication electronic.

Unlike other leaders, this elected leader did not identify any limiting factors: *"I don't think there is a limit, I don't think the cost is …".* The appointed leader for the same council however identified political limiting factors at councillor level to achieving the e-space shapes discussed.

AL5 identified political as well as financial and human resource limiting factors, stressing that political encouragement was needed to ensure continuing development. AL1 however, remained unconvinced of the value of the e-spaces, preferring to use the council's website more as an advertising medium: *"I'm a traditionalist …the best level of communication is face-to-face".* For this leader the e-Democracy space was seen as only for voting and therefore not relevant as a 50% turnout was achieved with postal voting, contrasting with EL5 who saw the potential of the e-Democracy space and e-voting as a method of boosting turnout even further.

Whilst EL1 saw development of the website as the logical next step to cut the level of reactive "face-to-face" interaction with the customer, the focus was on developing it as an information resource rather than developing interactive e-spaces. It was felt this was supported by recent customer survey results pointing to an increased satisfaction with information access and use of the council's website. However, leaders are becoming aware of the need to provide choice of channel, although face-to-face communication is still seen by many as the primary mode of communication: *"… some people their only way is still the old way of a telephone call or to drop in …"* (EL1).

Most leaders identified financial and human resource limitations, including lack of expertise, as barriers to development of the e-spaces. AL1 commented that -governance implementation was dominated by the approach of *"What we can reasonably provide."* The need for a directive from the community was also identified by EL3 : *"We're happy to spend the dollars if the community wants it, but we need sold indication from citizens to proceed."* AL2 expressed the opinion that the community expected council to develop more online communication spaces, particularly in the area of planning and development.
Development of the e-spaces seems generally to be organic and not included specifically in strategic planning, exemplified in EL5's comment: *"The website is dynamic. It's not a be-all and end-all."* This attitude towards

e-spaces as organic and dynamic was observed in the eSAT assessment, with expansion and contraction evident in some e-spaces.

EL1 emphasised people needed to feel comfortable:

> *" … it's a matter of the timing for us. Rather than saying it's going to be done, we need to allocate resources to it etc., etc. … but I guess what we're trying to do … is to eventually have everything there, as the demand grows and you educate people."*

Most rural council appointed leaders were more cautious than their elected leaders, looking at implementing e-governance spaces within ten years while their elected leaders identified a need for spaces such as e-consultation space within five years. This could be a manifestation of the different focus of the political versus operational viewpoint.

EL3 commented that the e-Participation space should be developed before the e-consultation, emphasising the linearity still evident in TMT leaders thinking about e-spaces. This leader suggested a three to four year timeline for the development of these spaces. AL3 agreed, suggesting a five year timeline as likely and the necessity to include planning for these e-spaces in the IT Plan currently being developed to ensure buy-in from councillors and the community. This leader was hesitant, however, about the development of the e-Democracy space.

e-Networks and Transform spaces were identified as areas which could realistically be implemented in the next 5 years. AL5 commented that the Transform e-space would appear within the year, as officers were already working on it. This e-space was noted for this council in the 2007 assessment, where previously it had not been noted (XXXX confirm).

Electronic democractic engagement was always given the longest timeframe and was associated with perceived difficulties in ensuring access for all to voting and security of the electronic environment and a lack of critical mass. In the case of e-voting, it was generally identified as

providing a supplementary rather than an exclusive channel, once the *Local Government Act* had been amended to allow this type of vote..

EL2 saw use of the website as a mechanism to provide choice and flexibility for citizens, while at the same time reducing the pressure on human resources. AL2 also saw it as a method of empowering community groups such as precinct groups through the provision of a page on the council website. While EL2 felt the timeline for development of the e-spaces was probably only a couple of years, not even five years, AL2 was more cautious on the timeline for this.

All leaders saw use of the internet increasing. This was encapsulated in the comment of EL5:

> *"Going on the past 5 years where we have seen a quantum leap in interaction, I can see that developing to be more open and more freer* [sic] *and easier interaction. So whether that mechanism is enabled by the e-commerce or e-governance, … or other strategies that are put in place along the way. But I see that in the last 5 years it's been a literal quantum leap … Developing a relationship and also methods of communication have changed and they're constantly changing."*

In discussing community consultation, EL5 commented:

> *"We fit the mechanism to the need. … At the end of the day, when you're trying to consult with the public you have to try as many different methods as you can because what one person will relate to another person won't. So by enabling that e-consultation section you're enabling another section of the community. … you have to, it's not … we've done this, we don't have to do anything else."*

The political imperative of visibility was often emphasised by elected leaders, including being visible in the community and always available for people to talk to: *" … we don't want to lose that personal contact that a lot of people yearn for. We shouldn't do it at the cost of that. We should do it as an addition to that." "*

Rural leaders also identified local portals as adjuncts to the council website:

> *"One of the reasons we probably haven't gone down that road quite so much is we actually, there's a [name omitted] portal called [name omitted] which has a very active notice board and chat rooms and also runs forums and polls. So we felt that by going down that road and starting to develop that side would actually detract from the portal which the aim of that is to get everyone using it because it's got a full events calendar on it and all that sort of thing. So the idea is that's people's first port of call for that sort of thing and they actually have a local government segment on that website"* (EL5).

Both elected and appointed leaders identified the community impact on the rate of e-governance implementation. In this context, the nature of demographic changes and increasing use of the internet and associated increasing citizen and customer expectation were seen as drivers for development of the e-governance spaces on council websites.

9.3 Discussion

The TMT leader interview responses confirmed the findings of the e-SAT assessment reported in Chapter 8 and the validity of use of this tool to describe e-government and e-governance capacity on local government websites, i.e.:

1. The dynamic nature of the e-space, with some components contracting and expanding over time and others becoming redundant.
2. The development of e-government and e-governance by WA councils is both organic and dynamic. The TMT leader interview responses presented in Chapter 8 provide the CCDG context for these observations.
3. The identification of lead urban and lag rural councils with lead and lag implementation of e-government and e-governance evident.
4. WA council websites are developing in a contiguous rather than sequential way and that the e-spaces can change shape over time and according to context. This relates to councils articulating the reason for change as a response to the needs of their communities and may also relate to resource constraints, particularly for rural councils.
5. No components of e-democracy found on WA council websites.

6. Progress to varying degrees in the other components of e-governance was identified.
7. Development of the Interact and Transact e-spaces overall between 2003 and 2005, significantly so between 2005 and 2007, with little development of the Transform e-space over the same period.
8. E-space components relating to e-commerce such as integrated supply chains, information and business portals were not developed. Those components present in 2003 declined between 2005 and 2007.
9. Overall growth in the frequency and functionality of elements of e-commerce related to citizens, ratepayers and businesses such as payments online and online tenders was noted. However, the online tenders e-space contracted in 2005, in line with the survey responses, before expanding again in 2007. It was also noted that urban councils had implemented these components to a far greater degree than their rural counterparts.
10. Between 2005 and 2007 significant e-space growth occurred in website components such as e-consultation, online payment, online feedback methods including online form submission and email to officers, however email to councillor options contracted significantly in this period.
11. Whilst significant e-space development occurred over the period, particularly in the Interact component of e-government, development of the e-CzRM/e-CRM component with citizens and business progressed at a slower pace, possibly due to the considerable financial commitment required to provide such systems.

These responses show that Western Australian councils remain focused on e-government implementation, with concurrent development of the Publish, Interact and Transact e-spaces.

TMT leaders acknowledge concurrent development of e-governance spaces is taking place, as reported in Chapter 8, although this is proceeding at a more gradual pace. The primary focus in the future was identified by these leaders as the e-Consultation and e-Participation

spaces. This was confirmed by e-SAT assessment, with certain components of these spaces such as e-consultation modules, increased online feedback mechanisms and growth in availability of e-news and e-subscription options noted.

The interviewees confirmed the observed tentative development of the e-governance spaces for which they perceive an information “pull” need, such as e-consultation and feedback or an information “push” need such as e-news and e-subscription options. Counterbalancing this is a consistently expressed view that face-to-face interaction is still important and the development of the e-spaces will provide another channel of choice for this, not the only channel. This is associated with the view expressed by these leaders (discussed in Chapter 7) that WA councils will maintain a physical face whilst developing a supplementary virtual face focused on providing cost efficiency as well as expansion of customer choice viewpoint.

Development of the e-Consultation and e-Participation spaces was seen by all leaders as becoming a reality within the next five years. Although these spaces are developing adjacent to the e-Networks space, councils were generally reluctant to provide some of the e-networks components such as web discussion spaces and public message boards. These components of the e-Networks space are often delegated to community portals, where these exist.

Financial and human resource constraints were strongly identified as limiting factors in achieving the desired level of e-space development. However, it would be fair to say that most TMT leaders interviewed were not fully aware of how to maximise the potential and ROI of their websites - where e-governance spaces were already partially developed in most cases - and therefore assumed large capital input was required.

10 SUMMARY AND CONCLUSIONS

Investigation of council TMT leader attitudes towards providing the environment for implementation of local digital government in Western Australia, as well as benchmarking and mapping the level of digital government on council websites has been undertaken in this study. Multiple quantitative and qualitative research strategies have been employed to provide as wide a context as possible. Data triangulation validated the outcomes of the research strategies used, with survey results confirmed through case study interviews and illustrated through website assessment.

An extensive literature review identified gaps in a number of key areas. These were broadly related to:

1. A lack of frameworks to provide clarity of purpose for the implementation of local digital government;
2. A lack of knowledge of local government elected and appointed leader attitudes and intentions towards providing the enabling environment for implementation of local digital government and the degree of convergence of these attitudes and intentions; and
3. An inability to adequately benchmark the level of implementation of local digital government due to a lack of assessment tools incorporating both facets of this type of government.

Four research questions and a number of associated assumptions and outcomes were developed to investigate the gaps identified. The major outcomes of this study are discussed in the following sections, related to these research questions.

10.1 The Local Digital Government Framework

Review of the literature revealed an apparent lack of models and frameworks to support and assess implementation of digital government at the local level.

The LDGF, incorporating the conceptual Citizen-Centric Digital Government (CCDG) model and associated Cybercentrism Management (CM) paradigm, was developed in this study to provide the basis for investigation of the research questions and address perceived gaps in the literature (Figure 4-4). The LDGF extends previously existing e-government-focused models and frameworks to enable a shift from the organisational focus of e-government towards incorporating the citizen focus of e-governance and therefore the implementation of local digital government.

The CCDG model uses the e-government/digital governance literature to extend existing online government models. It emphasises the citizen viewpoint and the concepts of e-governance in addition to the organisational focus and concepts of e-government. This model provides the conceptual basis for assessment of the degree of e-governance on Western Australian council websites. Although tested on local government only, the model is applicable to all levels of government, therefore enabling development of citizen-centric electronic service delivery at local and state level (Office of e-Government, 2007) and e-democracy at the federal level (Australian Government Information Management Office (AGIMO), 2007).

The CM provides the management paradigm for a digital-era local government environment and the context for examination of elected and appointed leader attitudes towards provision of this environment. This paradigm, supported by the literature, extends previous NPM e-government based frameworks to a cybercentrism-based LDGF incorporating e-government and e-governance facets. The cybercentric components of this framework bring the importance of knowledge sharing and the development of online and collaborative relationships to the forefront, laying the operational foundation for e-governance and the development of a citizen-centric online relationship.

10.2 Tools and benchmarks for local e-government

Digital government incorporates the facets of e-government and e-governance. Existing tools and benchmarks were based either entirely or predominantly on assessing e-government implementation and anchored in the NPM-model e-government literature. A new survey instrument, based on the LDGF and therefore relevant to digital government was designed. The results from use of this instrument extend previous investigations of TMT leader attitudes towards providing interaction in a virtual environment, whilst at the same time providing a degree of comparability to progress accumulation of knowledge. The survey instrument was tested a number of times and was found to be sensitive, robust, consistent at all levels of analysis and provide repeatable results over repeated surveys.

A new website assessment tool was also developed to extend knowledge through assessment of the e-governance facet of digital government, in addition to the e-government facet. Investigation of the degree of implementation of both facets of digital government, and therefore an indication of the relationship between intent and implementation required development of a benchmarking tool relevant to both facets of digital government. The e-SAT was developed after extensive review of the literature and is linked to the concepts of the LDGF. It characterises the digital government e-spaces on council websites and their associated degree of expansion or contraction over time and enables the level of e-government and e-governance displayed to be mapped. Enabling four dimensions of digital government to be assessed, the e-SAT provided a greater depth of e-space characterisation than other tools (for example Cyber.state.org, 2001; Dunleavy, Margetts, Bastow, Callaghan, & Yared, 2002; Shackleton, 2002; Shackleton et al., 2004, 2005; 2006), including an assessment of functionality and depth in the e-space and the mapping of e-government and e-governance levels.

10.3 Preparation for local digital government in Western Australia

The CMF was extensively tested using a pilot survey in 2002, followed by two surveys of the entire Western Australian (WA) council population in 2003 and 2005. The cybercentrism framework adapted for local government was shown to be applicable as a tool to characterise digital government attitudes. It was consistent at all levels of analysis from individual leader and council to dimension and council and dimension and ACLG levels.

WA councils are cybercentric overall. However, the variance in cybercentrism level between councils is widening, indicating the development of the environment required to enable digital government is not proceeding at a uniform pace.

Councils operate in the open environment of a social system where citizen expectations and council resources are continually changing. This is reflected in observed changes in cybercentrism levels over time. When mapped onto the cybercentrism continuum, it was confirmed that these changes can occur in either direction, as would be expected in an open system.

Differences in the level of perceived cybercentrism in the dimensions of the CMF were identified between TMT elected and leader groups, although some convergence is beginning to appear and both groups are cybercentric overall.

Cluster analysis showed that WA councils can be grouped into six clusters, based on their level of cybercentrism in the dimensions of the CMF, and that this clustering effect is broadly divided between rural and urban councils. Interviews with elected and appointed leaders reinforced the cybercentrism levels for the cluster group to which they belonged, confirming the power of the clustering technique and also that use of the

cybercentrism framework and continuum to represent the attitudes of these leaders was valid. By extension, cluster membership could be used to predict the level of cybercentrism of a council and the attitude towards the implementation of digital government.

Discriminant analysis showed 70% of the clustering effect is driven by the TMT elected leaders' level of cybercentrism. At the local government level, elected leader attitudes towards the implementation of digital government are therefore critical as these attitudes will drive any change.

The study revealed that both appointed and elected leaders are still geocentric in the corporate structure cybercentrism dimension of the CMF. Interviews confirmed the associated perception that operating in a hierarchical mode with less staff was equivalent to operating in a flattened structure. As a result, financial and human resource limitations to implementation of digital government were often identified in interviews with elected and appointed leaders.

There is no doubt that these limitations exist and government reports on cost-shifting have identified an area in which state governments impose these limitations on local government. However, failure to implement digital government capacity may be perceived as due to resource limitations when in fact they are due to a lack of cybercentrism in the corporate structure which in turn limits the creation of an appropriate environment for the implementation of digital government.

Ensuring elected and appointed leaders are educated in the benefits and requirements of digital government is therefore essential, as citizens can be disadvantaged by a failure to move towards this paradigm in a timely way. Continued provision of peak body programs to support digital government and maximise returns is also required, as local government is the level with the highest level of direct exposure to citizens and the least financial capacity of all levels of government.

The case study interviews provided information on the degree of cybercentrism evident in the attitudes of WA council elected and appointed leaders, related to the dimensions of the CMF. They also provided insight into some of the factors driving the movement of local government on the cybercentrism continuum.

Broadly speaking, the elected and appointed leaders were aligned on the cybercentric side of the continuum. However, differences in the level of cybercentrism both between and within dimensions were identified. These generally related to a conflict between strategic and operational, political and administrative imperatives. Whilst lying on the cybercentric side of the continuum, and despite the introduction in an organic way of some of the e-space features of e-governance, no coordinated development of digital government is apparent. WA local government is still firmly anchored in the e-government space.

A disconnect between intent and implementation has been observed in this study. The need to develop more of the e-governance spaces was acknowledged by elected and appointed leaders. However, development of such spaces was expected to take up to ten years. Intent is obvious, with action dictated by a timeline developed within the individual council's constraints. This effect is also seen in the growing variance in cybercentrism levels between councils and may lead to an eventual inequity in the provision of digital government if left unaddressed.

The use of communication as a method of increasing accountability and for building citizen relationships was a theme for both elected and appointed leaders identified in this study. All leaders were cybercentric in their views on trust and relationships, reflecting the overall outcome of the survey where trust was identified as the dimension with the highest cybercentrism value. Communication was identified as an important factor in this relationship.

Development of council website e-spaces could therefore enhance the cybercentrism of this dimension for councils and strengthen accountability. It could also provide a method for councils to introduce horizontal authority into their flattened structures, increasing their cybercentrism levels and achieving the aims of elected leaders within the constraints experienced by appointed leaders.

The survey results showed that the dimensions of corporate structure, employment and corporate goals are not yet sufficiently developed in local governments in Western Australia to facilitate effective implementation digital government. This was confirmed through e-SAT assessment and mapping of the levels of e-government and e-governance on councils websites.

Consistently low levels of cybercentrism in the corporate structure, employment and corporate goals dimensions will lessen the cybercentric effect of the remaining dimensions in enabling local digital government. A potential role for the council peak body (WALGA) in assisting councils to structure and plan effectively, including the development of change management and innovation skills, to enable digital government is thus identified. This is a separate role from that of awards programs aligned with specific frameworks.

10.4 Local digital government implementation on Western Australian council websites

Government websites will increasingly exhibit characteristics of both e-government and e-governance as progress is made toward the implementation of digital government (Dunleavy & Margetts, 2000; Dunleavy et al., 2006). The levels of e-government and e-governance displayed on WA council websites was mapped in this study to provide a benchmark for the development of digital government at the local government level.

e-SAT assessments, while compatible with those provided by previous e-government assessment tools, benchmarked for the first time the degree of development of the facets of digital government by WA councils. The organic nature of e-space development on these websites was revealed using this tool. WA council website e-spaces are developing in a contiguous rather than sequential way with these e-spaces expanding and contracting over time and according to context.

Growth in the implementation of the e-governance spaces and therefore preparation levels for digital government was evident between 2003 and 2007. However, this growth was variable across the e-spaces, with the components related to the e-consultation and e-participation spaces increasing in functionality and frequency to a greater degree than those related to the e-networks space. No development in the e-democracy space was apparent. e-SAT assessment also provided a confirmatory link between the intent revealed through survey and interview and its implementation revealed through website e-space development.

Whilst WA councils remain focused on e-government implementation, with concurrent development of the Publish, Interact and Transact e-spaces, development of e-governance spaces is proceeding at a more gradual pace. The primary focus in the future was identified by elected and appointed leaders as the e-consultation and e-participation spaces. This was confirmed by e-SAT assessment, with certain components of these spaces such as e-consultation modules, increased online feedback mechanisms and growth in availability of e-news and e-subscription options noted.

Information “push” is still a priority for WA councils, evidenced in the size of the publish e-space and the e-news and e-subscription components of the e-participation space. By contrast, development of the e-space components for information “pull”, such as web discussion spaces, public message boards, blogs and online communities of practice are not as well developed. In fact, e-consultation is the only “pull” component seen to be

significantly developed on council websites. These components of the e-governance spaces are often delegated to community portals, where these exist.

Counterbalancing development of digital government at the local level is a consistently expressed view that face-to-face interaction is still important and the development of the e-spaces will provide another channel of choice for this, not the sole channel. WA councils will maintain a physical face whilst developing a supplementary virtual face focused on providing cost efficiency as well as expansion of customer choice for interaction.

10.5 Research Limitations

The study was confined to Western Australian local government. Investigation of cybercentrism levels and the attitudes and intent towards implementation of local digital government across Australia was not undertaken. Potential differences or similarities between states were not identified, but this would be of use in formulating national programs to assist local digital government implementation. However, this study has developed the framework, survey and website assessment tools to enable investigation of local digital government implementation across other states.

The study was confined to one level of government only. The framework and tools developed could be used to investigate the level of digital government across both federal and state tiers, as well as the interaction between levels of government.

Only elected and appointed council leaders were surveyed in this study. Investigation of citizen attitudes using an adapted survey instrument would provide extended context in terms of the CCDG model.

Although proving the value of the survey instrument, the timeframe for assessing changes in attitudes and intent towards digital government

implementation was relatively short. Identification of the full linkage between intent and implementation may require a longer timeframe.

10.6 Future Research Directions

A number of future research opportunities present themselves, based on the concepts, models and tools proved in this study.

1. Use the e-SAT to provide a benchmark of council websites across Australia and monitor digital government development through longitudinal mapping of e-government and e-governance levels.
2. Test the e-SAT capacity to assess the level of local digital government implementation in countries with similar political systems, such as Britain and Canada, to identify similarities and differences.
3. Undertake a longitudinal study of TMT leader group attitudes and intent towards digital government implementation, broadened to encompass all states of Australia.
4. Undertake a longitudinal study of citizen attitudes towards use of and satisfaction with local digital government e-spaces with particular emphasis on citizen expectation. This can be linked to e-SAT assessment of council websites to provide implementation feedback.
5. Apply the LDGF and the outcomes of local digital government to the consideration of mechanisms for deriving local government efficiencies.

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GLOSSARY OF ACRONYMS AND TERMS

Acronym/Term	Definition
AGIMO	Australian Government Information Management Office (formerly NOIE, *see below*)
ALGA	Australian Local Government Association
ANAO	Australian National Audit Office
CCDG	Citizen-Centric Digital Government. Aimed at providing proactive participatory democracy.
Digital Government	Used in this study as the broad term to describe citizen-centric government in the digital era, incorporating the facets of e-government and e-governance and based on the CCDG model. This form of government is proactive, engaging the citizen to ensure effective online service delivery, improved public policy-making and participatory democracy.
e-CzRM/e-CRM	e-Citizen Relationship Management/e-Customer Relationship Management
ICDT	Information Communication Distribution Transaction. Describes interaction spaces in the virtual service space (Angehrn 1997)
ICTs	Information and Communication Technologies
LGA	Local Government Authority
LGAs	Local Government Authorities. The municipal governance bodies for the third tier of government in Australia. *Also called councils or shires.*
NOIE	National Office of the Information Economy (subsequently AGIMO, *see above*)
NPM	New Public Management (Bourdieu 1986)
OECD	Organisation for Economic Co-operation and Development
Portal	A website that provides access and links to other sites

Acronym/Term	Definition
	and pages on the Web. Search engines and online directories are the most common portal sites. In a local government context this includes providing or providing access to online community directories (information portals), government websites and/or portals (government portals) and community websites with interactive links (community portals).
ROC	Regional Organisation of Councils
ROI	Return on investment
RSS	Really Simple Syndication. A syndication format that was developed by Netscape in 1999 and became very popular for aggregating updates to blogs and the news sites. *Also known as* Rich Site Summary and RDF Site Summary. (PCmag.com Encyclopedia)
TMT	Top Management Team. Term coined by Marton, 2003 to describe council appointed and elected leaders, i.e. the Chief Executive Officer and Mayor or Shire President.
VEE	Virtually Extended Enterprise
VEE	Virtually Extended Enterprise (Hammer 2001)
VROC	Virtual Regional Organisation of Councils
WALGA	Western Australian Local Government Association
WESROC	Western Suburbs Regional Organisation of Councils
WESROC	Western Suburbs Regional Organisation of Councils (in Western Australia)

A APPENDIX ONE

An Overview of Australian e-Government Policies and Strategies

[*adapted from* ANAO Audit Report No.26 2004-05, Auditor General, 2004]

Year	Policy/Strategy/Key Outcome	Content
1997	*Investing for Growth Statement*	Announced Information Industries Action Agenda to foster development of IT industries. Included commitment to deliver all appropriate services online by end of 2001.
2000	*Government Online-The Commonwealth Government's Strategy*	Highlighted some of benefits of increased internet use. All agencies required to prepare an Online Action Plan by September 2000 including timetable for delivery of services online. Internet services were to complement – not replace – existing forms of communication as well as improve quality, availability, responsiveness and consistency of those services.
2000	Formation of the *National Office of the Information Economy (NOIE)*	Charged with promoting and supporting government, business and community use of the online environment.
December 2000		Over 90% of federal departments had established an internet presence. Prime Minister confirmed the 2001 target had been met in a speech to the World Congress on Information Technology in February 2002.
2002		Recognition that Australia was one of the four leading nations in the western world in its use of e-business to provide Government services
November 2002	*Better Services, Better Government*	New framework for e-government, building on *Government Online* strategy. Key objectives included greater efficiency and return on investment and delivering tangible returns, signalling changing external focus to citizens rather than internal focus

Year	Policy/Strategy/Key Outcome	Content
		on technologies and an emphasis on business case-based strategic planning.
2003		Australian Public Service Commissioner states that the environment is characterised by "continued pressure for greater efficiency and effectiveness, rising community expectations for more convenient and sophisticated services, and issues that increasingly transcend agency boundaries". (Australian Public Service Commission, 2003 pp.62-63)
2004	*Australia's Strategic Framework for the Information Economy*	New strategic framework designed to build e-government, with public sector electronic service delivery and information across all tiers of government.
2004	*Connecting Government: Whole of Government Responses to Australia's Priority Challenges*	Management Commission report emphasising importance of public consultation and the need to engage with people and organisations in whole of government work.
2004	*Dissolution of NOIE and formation of Australian Government Information Management Office (AGIMO)*	Appointment of Australian Government Chief Information Officer responsible for coordinating implementation of the government's e-government strategy.
2005	*Australians' Use of and Satisfaction with e-Government Services report released*	Highlighted increasing use of e-government services by Australian citizens. To become an annual report.
2006	*Responsive Government: A New Service Agenda*	Next phase in improved online service delivery and responsive government. Outlines government vision for 2010 and includes strategic priorities of meeting users' needs; establishing connected service delivery; achieving value for money and enhancing public sector capability

B APPENDIX TWO

The Cybercentric Management Dimensions Adapted for Local Digital Government

[*adapted from* Stanton (2002)]

Cybercentric model dimension	**Features of Geocentric Management**	**Features of Cybercentric Management (adapted for local digital government)**
1.Management	Information Technology (IT) and Management Information Systems (MIS) segregated from the rest of the business.	IT and MIS brought into key decision making.[h]
		Single points of entry to multiple agencies allowing the opportunity to interact seamlessly[a]
		Integration of e-government as an enabler into broader policy and service delivery goals[b]
2.Corporate Structure	Broad, hierarchical structure with vertical command	Flattening of the organisation with horizontal authority
		Accountability, monitoring and evaluation[b]
		Strong performance management focus[c]
3.Company Goals*	Goals/objectives are known and not questioned by management	Goals/objectives are elastic and reinvented as the market evolves and changes.
		Creating innovative solutions for the citizens and businesses served[a]
		More structured knowledge management strategies to facilitate greater information flows, better knowledge of the customer and a greater sense of organisational identity[b]

Cybercentric model dimension	Features of Geocentric Management	Features of Cybercentric Management (adapted for local digital government)
		Reengineering business processes to change the way the organisation works[b]
		Importance of focus on implementation as well as strategies[b]
4.Market Position	Defined by competition and view of market structure as defined by physical presence.	Virtually-extended company understands the agility of e-commerce[c] E-commerce as a function of local e-government [e]
		Importance of customer relationship management[a] and transformation to citizen relationship management [d]
		Customer focus providing access, choice, citizen engagement and privacy[b,g]
		Sustained customer focus and development of improved services, not just improved access[c]
5.Competitiveness	The company fights for market share, and bitterly defends its knowledge.	The council looks for opportunities to enjoin other companies in mutually beneficial R&D ventures [f, g]
		Inter-agency collaboration in customer-focused groupings . information and communications technology funding seen as an investment[b]
		Councils work together and with public sector agencies to deliver e-government[c]
6.Employment	Lifetime employment	Contract workers and consultancy
		Skills required by managers are not solely technical [or administrative] but also embrace facility in participating in

Cybercentric model dimension	Features of Geocentric Management	Features of Cybercentric Management (adapted for local digital government)
		the information and communications technology decision-making process[b]
		Information and communications technology skills and knowledge are essential and should be accessed from more than one person or employment source to build capacity required[c]
7.Strategic Vision	Vision defines strategies according to a limited choice of options	Cyber vision offers a wide range of strategic options limited only by the ability to alter perceptions, intervene, or destabilise existing realities
		Vision and implementation. Striking the right balance between political leadership & administrative simplicity[a]
		Vision/political will including leadership and commitment at both political and administrative levels[b]
		Practical and realistic vision and political will with a change management emphasis[c]

Notes:

***** renamed to Corporate Goals for local government use

[a] Accenture (2001)
[b] OECD (2003a)
[c] Audit Commission (2002)
[d] Larsen and Milakovich (2005)
[e] Shackleton, Fisher & Dawson (2005)
[f] Dollery (2005)
[g] Ho (2002)
[h] TFG International (2004a,b)

C APPENDIX THREE

C.1 Ethics approved letter of invitation to participate in survey

Dear

Local government service provision

A research project investigating determinants of success and a management model for the effective implementation of local e-government services within Western Australia is being completed by Deb Stanton, Manager Community Access at the City of Nedlands, Perth.

The enclosed survey has been sent to all LGA Chief Executive Officers, Mayors and Shire Presidents in Western Australia. You will recall receiving a similar survey in 2003. The response to that survey was substantial, enabling the research project to proceed. I have also enclosed a paper based on the responses to this first survey. This was presented as an invited paper at an IPAA conference earlier this year.

We are hoping again for a generous response to provide the information required to complete the second and final phase of the project. Your assistance in completing the survey would therefore be greatly appreciated.

The information you provide will assist in identifying changes in local government attitudes towards local e-government and implementation of online service provision. This will lead to the development of strategies to ensure quality interaction between local government and its citizens in an online environment.

The survey should take no more than 10 minutes to complete. Please use the enclosed reply paid envelope and return no later than 31 March 2005. All responses will remain anonymous and councils will be identified by code (known only to the local council concerned).

Thank you for your time and assistance in finalising this research. For further information please feel free to contact me on [redacted] or my supervisor, Professor Janice Burn, School of Management Information Systems, Edith Cowan University, Joondalup Campus, Perth, WA on (08) [redacted]

Regards

Deborah Stanton

C.2 Survey Questions

C.2.1 Survey questions related to the cybercentrism dimensions

	DIMENSION							
QUESTION	**Management**	**Corporate structure**	**Corporate goals**	**Market position**	**Competitive-ness**	**Employment**	**Strategic Vision**	**Trust**
1.Integration of IT in decision making process	X							
2.Structure broad & hierarchical		X						
3.Structure flat & horizontal		X						
4.Employee computer literacy	X							
5.Clear articulation of goals with no debate			X					
6.Use of e-commerce for online services				X				
7.Use of e-commerce for suppliers				X				
8.Flexible goals and objectives for the best outcome			X					
9.Formation of alliances for mutual outcomes					X			
10.Resource planning within the council			X					
11.Collaborative knowledge sharing between councils					X			
12.E-commerce and customers strategies							X	
13.E-commerce and suppliers strategies							X	
14.Expertise held in-house						X		
15.Knowledge-sharing partnerships within and among councils					X			
16.Contract						X		

workers and consultants								
17.Customer focused relationships				X				
18.Opportunities for regional participation in local projects sought					X			
19.Trust and collaborative projects between councils and other government agencies								X
20.Developing virtual interaction with customers							X	
21.Trust and collaborative projects								X

C.2.2 Survey questions

Please rate the following by circling the most appropriate number on the scale, where 1 is strongly disagree, 2 is disagree, 3 is undecided, 4 is agree and 5 is strongly agree.

If you are unsure of the meaning of a term used in this survey in the local government context, a Definitions section has been provided at the end of the survey.

No respondent to this questionnaire will be individually identified. By completing the questionnaire you are consenting to take part in this research. As such you should first read the accompanying Information Letter carefully as it explains fully the intention of the research project.

1. Making sure Information Technology and Management Information Systems are integrated and used in key decision-making is important in local government.

1	2	3	4	5
strongly disagree		undecided		strongly agree

2. My local government administrative structure is generally broad and hierarchical with vertical lines of authority to achieve the best outcome. (i.e. there are strict lines of reporting and responsibility between officers).

1	2	3	4	5
strongly disagree		undecided		strongly agree

3. My local government administrative structure is generally flat with horizontal lines of authority to achieve the best outcome. (i.e. there are flexible lines of reporting and responsibility between officers).

1	2	3	4	5
strongly disagree		undecided		strongly agree

4. My local government authority (LGA) is developing strategies to make sure our employees are computer literate and skilled in using the internet.

1	2	3	4	5
strongly disagree		undecided		strongly agree

5. Generally, the best outcome in local government is produced when goals and objectives are clearly articulated across the organisation and implemented without debate.

1	2	3	4	5
strongly disagree		undecided		strongly agree

6. The use of electronic commerce (E-commerce) is important in the delivery of local government services to the community (eg. payment of rates online).

1	2	3	4	5
strongly disagree		undecided		strongly agree

7. The use of E-commerce is important in interactions between local government and its suppliers (eg. the use of Electronic Document Interchange (EDI) between suppliers and the local government authority).

1	2	3	4	5
strongly disagree		undecided		strongly agree

8. Generally, the best outcome in local government is produced when goals and objectives are flexible.

1	2	3	4	5
strongly disagree		undecided		strongly agree

9. Opportunities to form alliances with neighbouring local government authorities are an important means of providing mutually beneficial outcomes.

1	2	3	4	5
strongly disagree		undecided		strongly agree

10. Resource planning across all divisions/departments in our local government is important to produce the best outcome for our community. (i.e. consider the level of cooperation between divisions and departments to use resources in the most efficient way, for example through project planning across your LGA).

1	2	3	4	5
strongly disagree		undecided		strongly agree

11. Local government authorities should keep collaborative knowledge-sharing initiatives to a minimum.

1	2	3	4	5

strongly disagree undecided strongly agree

12. My local government authority is developing strategies to incorporate E-commerce into the way we interact with our customers (including citizens, ratepayers, businesses, sporting groups, community groups etc.).

1 2 3 4 5

strongly disagree undecided strongly agree

13. My local government authority is developing strategies to incorporate E-commerce into the way we do business with our suppliers.

1 2 3 4 5

strongly disagree undecided strongly agree

14. Local government authorities should hold all necessary expertise among their employees to achieve the best outcome.

1 2 3 4 5

strongly disagree undecided strongly agree

15. My local government authority sees the development of strategies to efficiently utilise knowledge through knowledge-sharing partnerships as important. (i.e. consider the range of networking between individual officers, cross-council project teams or local government alliance websites your LGA supports).

1 2 3 4 5

strongly disagree undecided strongly agree

16. My local government authority employs contract workers and consultants on a regular basis.

1 2 3 4 5

strongly disagree undecided strongly agree

17. My local government authority sees the development of a customer-focused relationship as important to success in delivering outcomes.

1 2 3 4 5

strongly disagree undecided strongly agree

18. My local government authority actively seeks opportunities to participate in projects on a regional basis.

1	2	3	4	5
strongly disagree		undecided		strongly agree

19. Collaborative projects between local government authorities or other government agencies require trust between the partners to produce successful outcomes, even with clear documentation and lines of authority.

1	2	3	4	5
strongly disagree		undecided		strongly agree

20. While maintaining a physical point of contact (e.g. through having council offices), my local government authority believes it is important to develop different means to interact with customers in a virtual way to improve our decision-making (eg internet website; discussion groups and online forums; creation of a business portal).

1	2	3	4	5
strongly disagree		undecided		strongly agree

21. Trust is not important in collaborative projects between local government authorities or other government agencies because each project must be associated with clear documentation and lines of authority.

1	2	3	4	5
strongly disagree		undecided		strongly agree

Any other comment

Please supply the following details for general information only. These details are entirely confidential and will not be used to identify you individually in any way.

- **Age Range (<30, 30-39, 40-49, 50-59, 60+)** _____

- **Your highest educational attainment and the year in which it was gained**

_____

_____**Year** _____

- **Are you currently studying? Yes** ☐ **No** ☐

If yes, please supply details including expected completion date

_____

- **Total local government experience** _____

- **Other relevant experience before entering local government and length of that experience (eg. business 5 years; state government 3 years; legal 1 year; finance 10years)**

_____

_____

- **Period of time in your present position** _____

THANK YOU FOR YOUR ASSISTANCE

Definition of terms used in this survey

Electronic Commerce (E-commerce)

A way of doing real-time business transactions via telecommunications networks, when the customer and the supplier are in different geographical places.

E-commerce is a broad concept that includes virtual payment methods. E-commerce operates via the Internet using all or any combination of technologies designed to exchange data (such as EDI or e-mail), to access data (such as shared databases or

electronic bulletin boards), and to capture data (through the use of bar coding and magnetic or optical character readers).

Electronic Document Interchange (EDI)

A computerised system that allows linked computers to conduct business transactions, such as invoicing and ordering, over a telecommunications network.

Information Technology

The term Information technology (IT) encompasses all forms of technology used to create, store, exchange, and use information in its various forms (including business data, voice conversations, still images, motion pictures and multimedia presentations) and the development and use of the hardware, software and procedures associated with this processing.

Management Information Systems

Management Information Systems (MIS) is a general term for the computer systems in an enterprise that provide information about its business operations. It's also used to refer to the people who manage these systems.

MIS uses computer hardware and software; manual procedures; models for analysis planning, control and decision-making; and databases to provide information to support operations, management, and decision-making functions in an organisation. It is not the same as Information Technology.

D APPENDIX FOUR

D.1 Interview Protocol

D.1.1 Ethics approved letter of invitation and consent

Letter of Consent
Case Study Participation

Local e-government project

Dear

A research project investigating determinants of success and a management model for the effective implementation of local e-government services within Western Australia is being completed by Deb Stanton, Manager Community Access at the City of Nedlands, Perth.

You will recall receiving a survey in 2003 and another earlier this year addressing this research. The response to that survey was substantial, enabling the research project to proceed. The survey results have identified potential case study participants to provide more detailed input to the development of a management model for implementing local e-government and associated benchmarks.

You are invited to participate in the case study phase of the project. This will involve an interview of approximately one to one and a half hours duration and a desktop overview of documentation available on your council's website. It would be appreciated if the interview could be taped to enable more accurate analysis of themes and concepts. All material gathered will remain anonymous and confidential, identified only by code, and will be stored in a locked area at Churchlands University.

The information provided through these in-depth case studies will complete the research into identifying local government attitudes towards local e-government and the implementation of online service provision. It will also identify the factors which may be determinants of success in this area. This will lead to the

development of management strategies to ensure quality interaction between local government and its citizens in an online environment.

I would appreciate it if you would sign and return the consent section below to me by May 15, 2005. Once this has been received I will contact your secretary to arrange a convenient time for the interview.

Your time and assistance in finalising this research is highly valued. If you have any questions or require further information, please feel free to contact me on [redacted] or my supervisor, Professor Janice Burn, School of Management Information Systems, Edith Cowan University, Joondalup Campus, Perth, WA on [redacted]

Regards

Deborah Stanton

[Address]

I (*insert name*) ……..

(*insert position title*) …….. of the

(*insert Local Government Authority name*)
……

consent to participate in a case study interview as part of the research project being undertaken by Deborah Stanton at Edith Cowan University on the topic of "*Attitudes and determinants of success in the implementation of local e-government in Western Australia"*.

I **consent**/**do not consent** (*strike out whichever does not apply*) to this interview being tape recorded. I understand that if the interview is recorded, neither I nor my Local Government Authority will be identified by name. I also understand that the tape and any data prepared from it will be stored in a locked location and disposed of in accordance with standard recordkeeping requirements. Further I understand that any data from this process will only be used for research purposes and that neither my name nor that of my Local Government Authority will be used in any research papers using this data.

Signed …….

Date ……..

D.1.2 Interview Information Pack – Local e-government research project

Section 1. Website Shape Analysis *(approximately 20 minutes)*

Please refer to the Table of Website Components for Government Websites (below) and following comparative website shape summary for the ***[LGA Case Study].***

The table shows eight sub-spaces which can be seen on government websites. The first four represent progress in implementing various e-government output dimensions. The next four represent progress in implementing various e-governance outcome dimensions. Local government websites show a variety of these sub-spaces, but there is no "right" or "wrong" website shape. The LGA needs to interact in this environment in the way its citizens and customers require.

e-Space	***Sub-space***	***Primary E-components***	***Secondary E-components***
e-Government Online process implementation Organisation-centric "Push"	**Publish** Providing Information – *"data in context"* [1], [3], [4], [7],	Static and strategic information available for download [4], [11],[12]	Information documents Strategic documents
Conceptual Model: Government focused VEE	**Interact** Two-way communication *with* the citizen. Citizen feedback [4], [5] ,[12]	Common entry points. Access to information to do business with government	Downloadable forms / documents Site search Email to officers Employment Tenders Information portal
	Transact Citizens can conduct and complete transactions online[1 , [4] ,[11],[12]	Access to transactions online or in person Seeking feedback	Payment online Email to officers Ability to complete transaction online
	Transform Seamless/integrated virtual government [1], [3], [4], [11],[12]	Submission tracking End-to-end process integration E-business opportunities	E-CRM Central government portals for all services & links]

e-Space	*Sub-space*	*Primary E-components*	*Secondary E-components*
			Integrated supply chain Business Portals
e-Governance Online transformation to "*representative e-government*" [6] Citizen-centric / "Pull" [10]	**e-Consultation and collaboration** (including e-policy) [8] Seeking citizen feedback to contribute to initial stages of policy-making and strategic planning. [6], [7], [10],[12]	Mechanism available to provide formal feedback on projects and policies At least one defined method to undertake specific consultation exercises [6], [7], [8], [9]	Consultation module "Have your say" Public message board Web-casting public meetings Online surveys / questionnaires Email to officers Real-time forums
Conceptual Model: Governance-focused CCDG	**e-Participation** [2] *" … the use of ICT to open new channels for participation in the democratic process between elections"* [cited in 9] Associating information with purpose and experience to develop e-knowledge. [4], [6] [10],[12]	Mechanism available for online sharing of information and ideas [2], [7], [8],[12]	Email Chat Privacy statement Web discussion spaces E-newsletters/E-news Online surveys/polls
	e-Networks " *… the strategic use of ICTs to better implement established public policy goals and programs through direct and diverse stakeholder involvement online.*" [6] Networked societal guidance [8] Online Communities of Practice [6], [7]	Mechanism for full online civic engagement including online public deliberation and debate. Mechanism available for those with relevant expertise to participate in projects with government officers (eg voluntary sector-local government partnerships)	Privacy statement Web discussion spaces E-newsletter/E-news Email Chat Online Communities of Practice E-petitions Online surveys/polls Topic portal
	E-democracy Transformative democracy *" … the use of ICTs in support of*	Mechanism for full online democractic engagement [2], [7],[8]	E-voting At least one binding online

e-Space	*Sub-space*	*Primary E-components*	*Secondary E-components*
	citizen-centred democratic processes".[2]. [9],[13]		polling/survey method

[***Sources:*** [1]OECD (2001a); [2]Kearns (2002); [3]Windley (2002); [4]NAO (2002);[5]IDeA (2002); [6]Clift (2003b); [7]Marche & McNiven (2003); [8]Riley (2003); [9]Riley & Riley (2003); [10]Smith et al. (2005); [11]Zhou (2004); **[12]** AOEMA (nd); [13] AGIMO (2007) [14] Bailey (2007); [15] O'Malley, Higgins et al. (2007)]

Website Shape Summary Report – [Case Study LGA]

Council Name: [Insert LGA name]
Council URL: [Insert LGA URL]
Assessment Date: [Insert date of site being reported]

Category	**Preparation Level**
Publish	[Insert level of preparation]
Interact	[Insert level of preparation]
Transact	[Insert level of preparation]
Transform	[Insert level of preparation]
e-Consultation	[Insert level of preparation]
e-Participation	[Insert level of preparation]
e-Networks	[Insert level of preparation]
e-Democracy	[Insert level of preparation]

Website Shape Questions

1.1 When did you first put up a website for this LGA? Why did you take that decision?

1.2 Your website shows progress in implementing the **[insert relevant shapes]**. Do you see the **[insert spaces not evident on website]** as relevant to your community? Is their implementation one of your LGA's goals? Is your community driving this? What sort of timeframe would this encompass?

1.3 Are there any community or business internet portals in your region? If so, does your LGA interact with these or support them? Are they well utilised by citizens?

1.4 **[Discuss design of program, either external, internal or through program such as Linking Councils and the Community].** What

were your reasons for following this method? Are there any limitations to how you can shape your website? Do you feel you would be free to develop any of the shapes we have discussed previously on your website at any time in this program?

1.5 WALGA has published some statistics in its 2004-05 Directory which outline the % of each LGA's population which is online. Your authority has **[Insert relevant LGA %]** of its population online according to this ABS data. How do you think your citizens are using this online capability? Are the numbers online in your community increasing? Do you see this as a driver in your strategic planning?

1.6 Of the eight shapes outlined in the Table above, which do you see your LGA moving towards implementing within the next year? The next five years? The next ten years?

- How did you form this timeline? For example, was it through consultation with citizens, direction from Council, direction from Administration?

1.7 What would enable your LGA to achieve these shapes? *(prompt: financial, political, physical factors)*

- What would limit your LGA in achieving these shapes? *(prompt: financial, political, physical factors)*

1.6 Does your local government authority see it as important to develop strategies to improve the sharing of knowledge and information between the authority and your community? Are you actively doing this? Can I find something about this in your strategic plan?

- If you are, what form do you think this will take? Will this include use of your website? What do you see as the benefits of doing this? (e.g. to improve decision making?)

1.7 Does your community expect you to develop strategies for implementation of e-commerce and for communication online with citizens and customers?

- If so, what form do you think this will take? Will this include use of your website? What do you see as the benefits of doing this? (e.g. to improve decision making?).

1.8 How do you think your LGA will be interacting with its citizens and suppliers in 10 years time? Do you see a change? Do you see use of the internet increasing or decreasing?

Section 2. Trust *(approximately 10 minutes)*

2.1 How important do you think trust is in the relationship between the LGA and its citizens?

2.2 What strategies do you implement to build trust? What do you think are the most important factors in building trust? Would your website have an important part to play in building trust in your community?

2.3 Do you think the development of the web spaces we've discussed a little earlier would be of benefit in building trust with your citizens? Which spaces would this involve do you think and to what extent would each space be developed?

2.4 Do you think local government collaborative projects require considerable trust between the partners to produce successful outcomes? Are these collaborations becoming more or less common in your opinion?

Section 3. Comparative Survey Response Summary 2003 and 2005 – [Case Study LGA] *(approximately 30 minutes)*

The comparative results for the **[Case Study LGA]** in the table below relate to the Survey Questions in **Appendix A**.

Question	CEO 2003	CEO 2005	Mayor 2003	Mayor 2005
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				

Where 1 = Strongly Disagree, 2= Disagree, 3 = Undecided, 4 = Agree and 5 = Strongly Agree

Interview Questions Related to Survey	Related Survey Questions
3.1. What position do you think Information Technology and Information Systems should have in decision-making within your LGA? Should they be an integral part of decision-making? What do you think is their relative importance?	**1,4,20**
3.2 How do you see the development of electronic government in relation to your policy and service delivery planning for your LGA?	
3.3 How does your LGA's organisational structure (flattened or vertical) assist in achieving outcomes for citizens?	**2,3**
3.4 Do you think your organisational structure lends itself to a higher level of accountability? If so, how? Is this an important area for local government?	
3.5 Does your LGA have a strong management focus? Could you tell me about this process?	
3.6 Briefly, how does your LGA arrives at its goals and objectives? How flexible are these? How are they communicated to your stakeholders and what input do they have? What are the benefits for your LGA of this process?	**5,8**
3.7 Does management see value for citizens and customers in innovation? If so, how is this fostered? Do citizens have a role?	
3.8 Do you see internal information flows and knowledge management as important for your LGA? What about external information flows and knowledge management?	**10, 11**
3.9 Do you see any benefits from sharing information and knowledge with other LGAs and if you do, could you elaborate please?	**11, 19**
3.10 Do you see value in regularly reviewing your business processes? If so, how often do you do this?	
3.11 Briefly, how do you monitor the implementation of your strategies and goals? How regular is this monitoring?	
3.12 How do you see your LGA operating now and in the future? Will it be in a physical environment only, or a virtual one, or some combination of the two? What do you see as the benefits of this chosen method of operation for your citizens and customers? Will you be looking to pursue e-commerce relationships with your suppliers and customers? If so, why?	**6,7,12,13**
3.13 How important is it to your LGA to develop a customer focus? What elements does this incorporate in your view?	
3.14 Who do you see as your customers? How important to your LGA is customer relationship management? How are you addressing this?	
3.15 How important is it to your LGA to continually improve services to your citizens and customers? How often do you review these?	
3.16 Briefly, how do you decide what citizens and customers need?	
3.17 Does your LGA join with other LGAs in undertaking projects? If so, is this on a local and/or regional basis? What benefits do you see in this collaboration? What drawbacks?	**15,18**

3.18 How do you view your LGA's level of investment in information and communications technology? Is it adequate? Are there limitations to your ability to implement what you think you require?	
3.19 Do you see any value in working with other public sector agencies to deliver local government? Does this form part of your planning for e-government? Is it a significant part?	
3.20 Does your LGA develop all the skills it needs in-house, or do you prefer to outsource to contract workers and consultancies or use some mix of these? Why has the method used been chosen?	**14,16**
3.21 Do you see working here as lifetime employment for your employees? What are the benefits of this for your employees and your citizens?	
3.22 Do all your managers have information and communication technology skills, or is this centralised in one person or area in your LGA, or is it outsourced? Do you intend to build any further capacity in this area? Why? How will you do this?	
3.23 How wide a range of options do you consider in defining your LGA's strategic vision? Where do these options come from and who takes part in the process of defining and considering them? Are there any limiting factors? What or who are the key drivers in formulating this strategic vision?	**12,13,15,17,20**
3.24 How do you see the balance between political leadership and administrative leadership in your LGA? Is this a productive relationship for the citizen and customers? How do you assess this?	
3.25 Do you feel the vision of Administration and Council is well aligned?	
3.26 How important is change management in your LGA? Which levels of the organisation drive change? Who are your change agents?	

E APPENDIX FIVE

The ACLG Locator System

Table E.1: Structure of the classification system

Step 1	Step 2	Step 3	Identifiers	Category
URBAN (U)				
Population more than 20 000 OR If population less than 20 000, EITHER Population density more than 30 persons per sq km OR 90 per cent or more of LGA population is urban	CAPITAL CITY (CC)	Not applicable		UCC
	METROPOLITAN DEVELOPED (D) Part of an urban centre of more than 1 000 000 or population density more than 600/sq km	SMALL (S) MEDIUM (M) LARGE (L) VERY LARGE (V)	up to 30 000 30 001–70 000 70 001–120 000 more than 120 000	UDS UDM UDL UDV
	REGIONAL TOWNS/ CITY (R) Part of an urban centre with population less than 1 000 000 and predominantly urban in nature	SMALL (S) MEDIUM (M) LARGE (L) VERY LARGE (V)	up to 30 000 30 001–70 000 70 001–120 000 more than 120 000	URS URM URL URV
	FRINGE (F) A developing LGA on the margin of a developed or regional urban centre	SMALL (S) MEDIUM (M) LARGE (L) VERY LARGE (V)	up to 30 000 30 001–70 000 70 001–120 000 more than 120 000	UFS UFM UFL UFV
RURAL (R)				
An LGA with population less than 20 000 AND Population density less than 30 persons per sq km AND Less than 90 per cent of LGA population is urban	SIGNIFICANT GROWTH (SG) Average annual population growth more than 3 per cent, population more than 5 000 and not remote	Not applicable		RSG
	AGRICULTURAL (A)	SMALL (S) MEDIUM (M) LARGE (L) VERY LARGE (V)	up to 2 000 2 001–5 000 5 001–10 000 10 001–20 000	RAS RAM RAL RAV
	REMOTE (T)	EXTRA SMALL (X) SMALL (S) MEDIUM (M) LARGE (L)	up to 400 401–1 000 1 001–3 000 3 001–20 000	RTX RTS RTM RTL

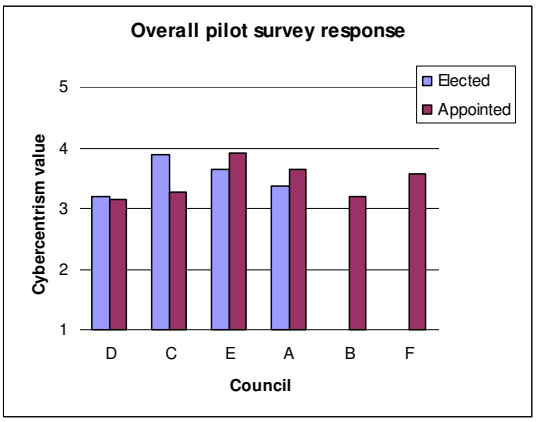
State	NSW	Vic.	Qld	WA	SA	Tas.	NT	Total
Urban Capital City (UCC)	1	1	1	1	1	1	1	7
Urban Development Small (UDS)	3	1	0	12	2	0	0	18
Urban Development Medium (UDM)	14	2	1	3	7	0	0	27
Urban Development Large (UDL)	6	9	1	2	5	0	0	23
Urban Development Very Large (UDV)	8	10	1	1	0	0	0	20
Urban Regional Small (URS)	12	12	21	7	7	0	0	59
Urban Regional Medium (URM)	22	8	3	3	0	3	0	39
Urban Regional Large (URL)	2	3	2	0	0	0	0	7
Urban Regional Very Large (URV)	3	1	7	0	0	0	0	11
Urban Fringe Small (UFS)	0	1	23	1	1	6	5	37
Urban Fringe Medium (UFM)	3	3	4	3	2	0	0	15
Urban Fringe Large (UFL)	1	3	1	5	0	0	0	10
Urban Fringe Very Large (UFV)	7	3	0	1	1	0	0	12
Rural Significant Growth (RSG)	0	1	0	8	0	0	0	9
Rural Agricultural Small (RAS)	3	0	7	53	11	2	0	76
Rural Agricultural Medium (RAM)	24	0	26	17	11	3	0	81
Rural Agricultural Large (RAL)	24	9	14	2	9	9	0	67
Rural Agricultural Very Large (RAV)	19	13	21	2	11	5	1	72
Rural Remote Extra Small (RTX)	3	0	4	5	4	0	27	43
Rural Remote Small (RTS)	0	0	6	4	0	0	20	30
Rural Remote Medium (RTM)	1	0	11	6	1	0	9	28
Rural Remote Large (RTL)	1	0	3	6	1	0	0	11
Total	157	80	157	142	74	29	63	702

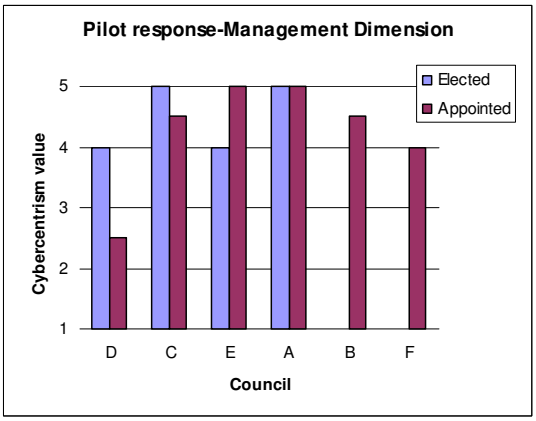
[*source* DOTARS, 2006]

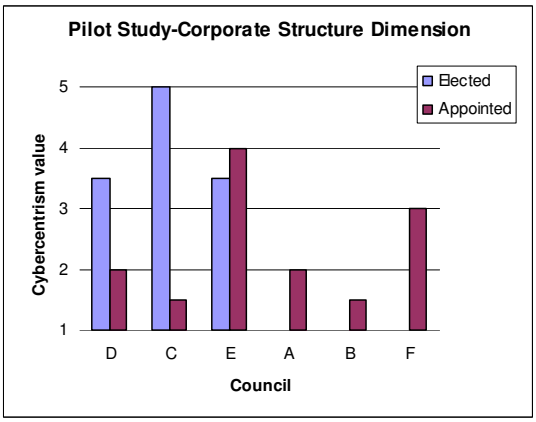
F APPENDIX SIX

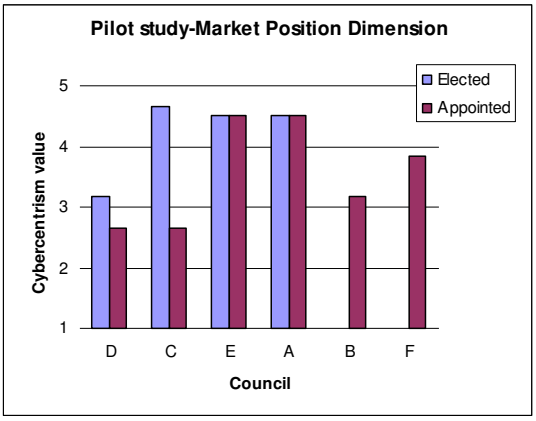
F.1 Pilot study survey statistics

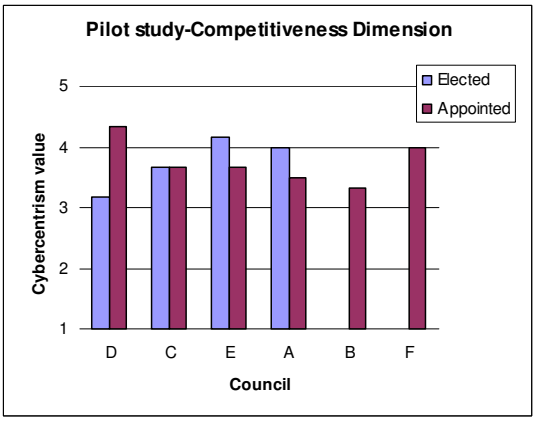
F.1.1 Overall Response

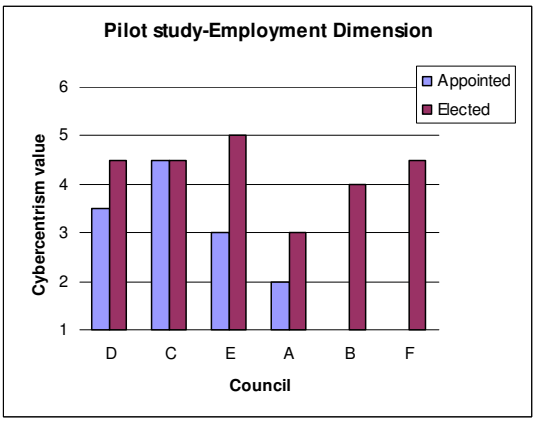


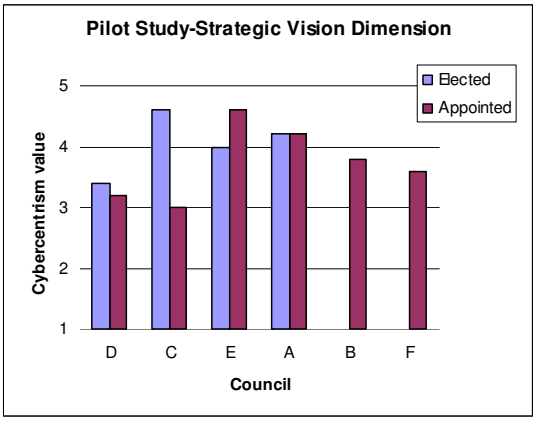


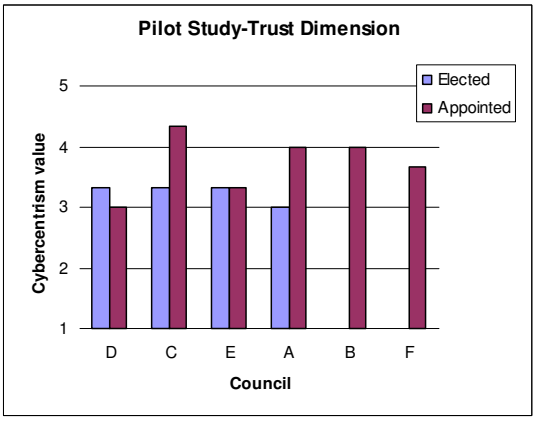



Pilot study-Market Position Dimension
Elected
Appointed
Cybercentrism value
5
4
3
2
1
D
C
E
A
B
F
Council

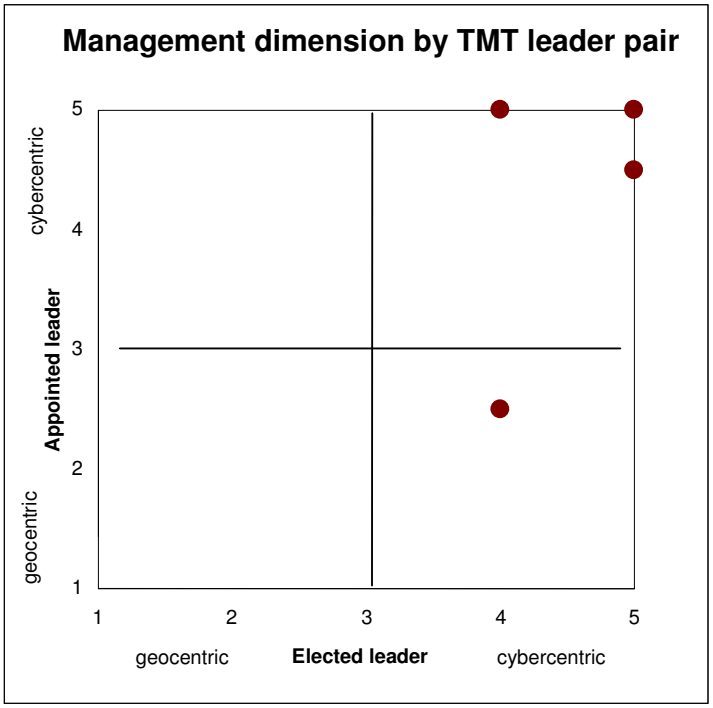

Pilot study-Competitiveness Dimension
Elected
Appointed
Cybercentrism value
5
4
3
2
1
D
C
E
A
B
F
Council

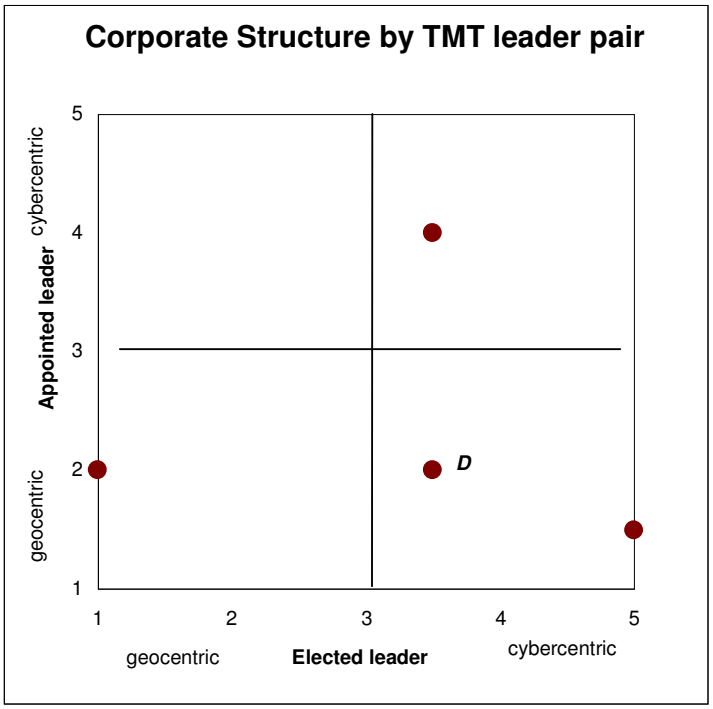

Pilot study-Employment Dimension
Appointed
Elected
Cybercentrism value
6
5
4
3
2
1
D
C
E
A
B
F
Council

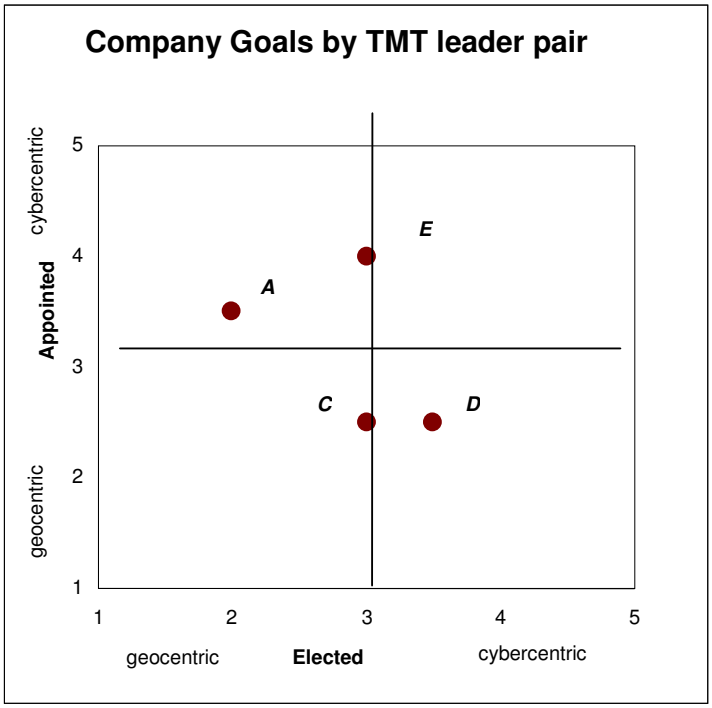

Pilot Study-Strategic Vision Dimension
Elected
Appointed
Cybercentrism value
5
4
3
2
1
D
C
E
A
B
F
Council

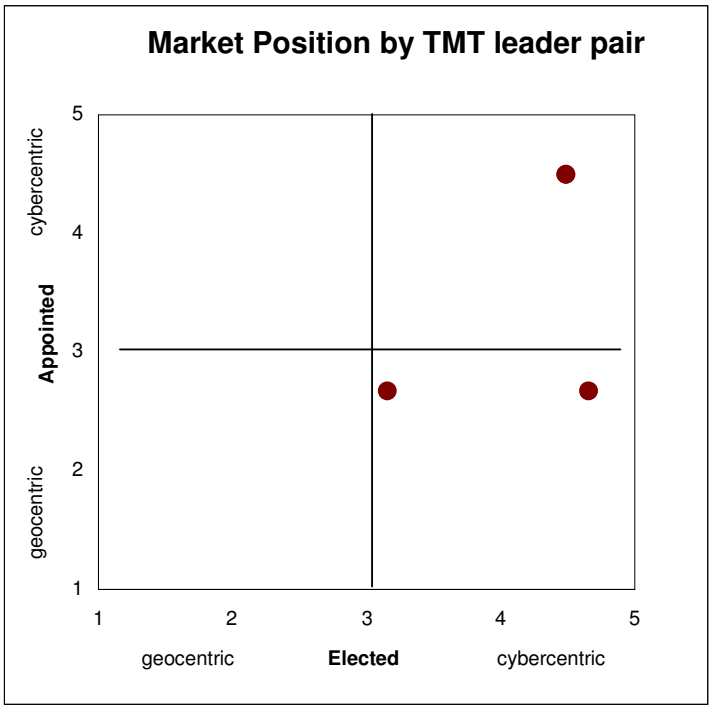

Pilot Study-Trust Dimension
Elected
Appointed
Cybercentrism value
5
4
3
2
1
D
C
E
A
B
F
Council

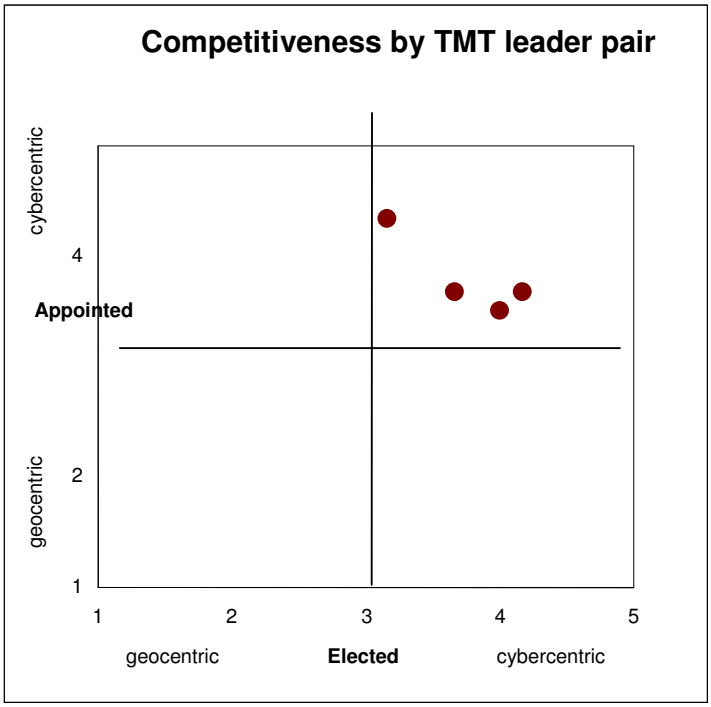
F.1.2 Continuum Maps

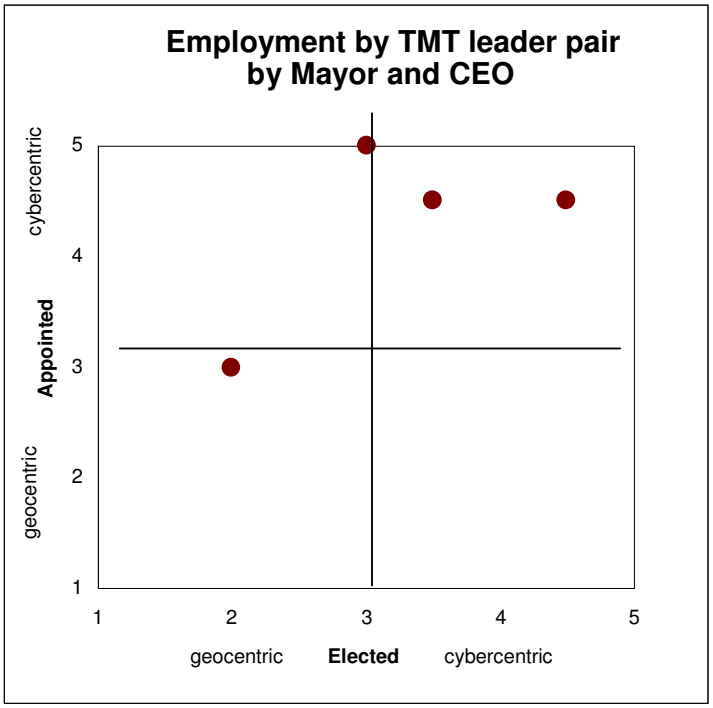


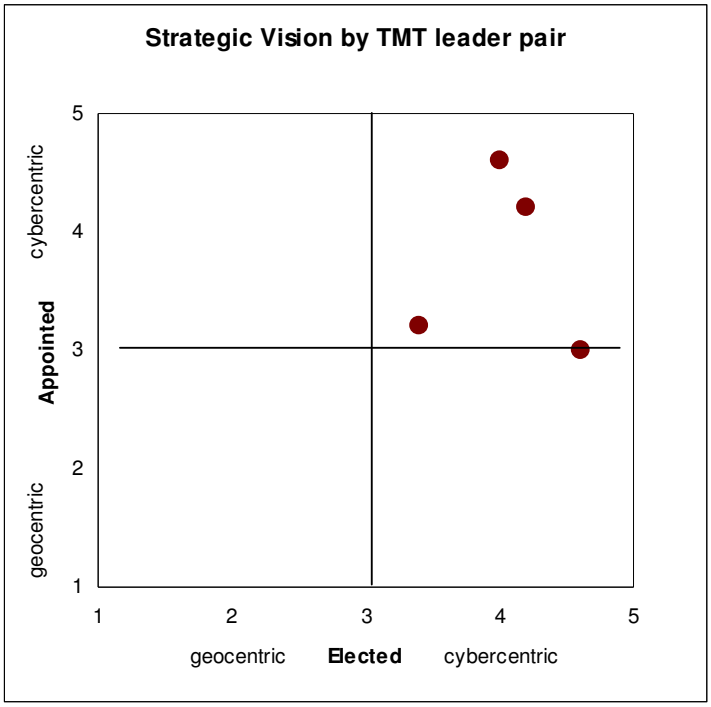


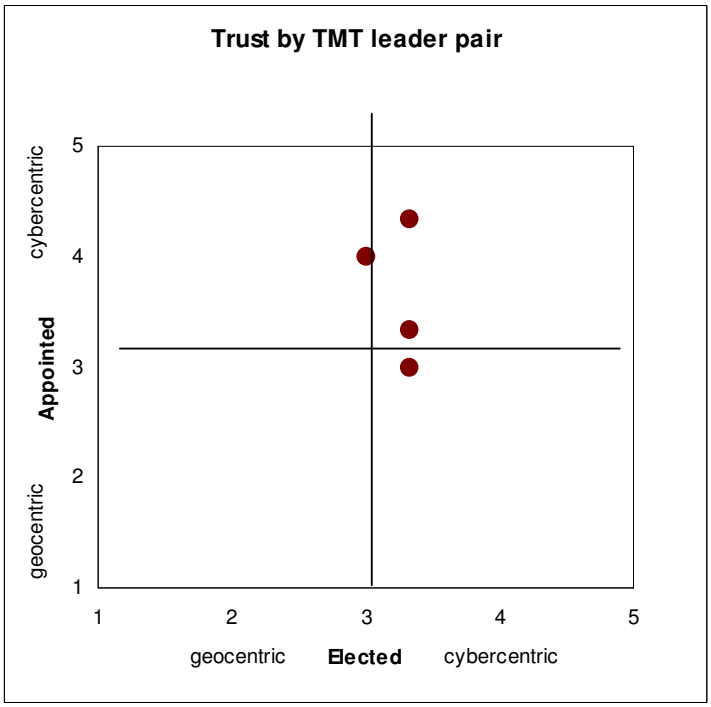

Company Goals by TMT leader pair
cybercentric
Appointed
geocentric
5
4
3
2
1
E
A
C
D
1
2
3
4
5
geocentric
Elected
cybercentric


Market Position by TMT leader pair
cybercentric
Appointed
geocentric
5
4
3
2
1
1
2
3
4
5
geocentric
Elected
cybercentric


Competitiveness by TMT leader pair
cybercentric
4
Appointed
geocentric
2
1
1
2
3
4
5
geocentric
Elected
cybercentric

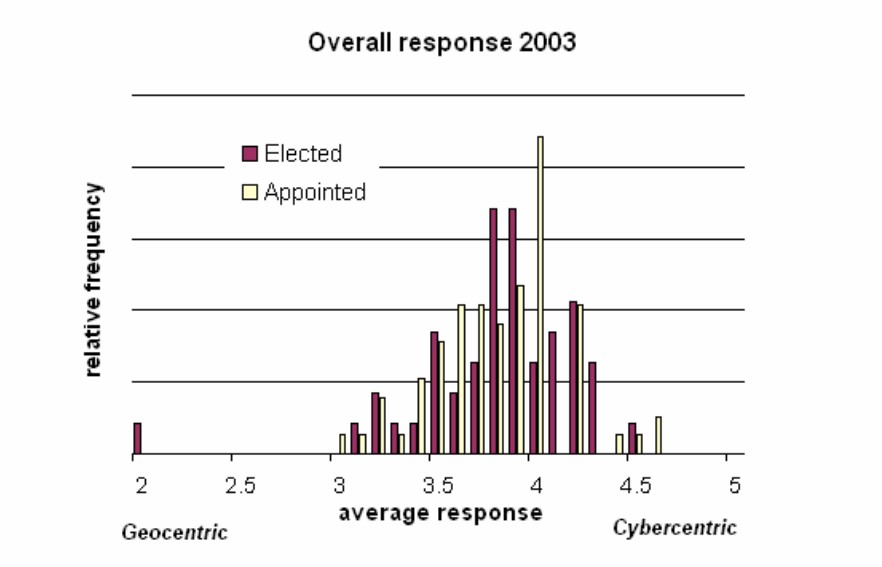

Employment by TMT leader pair
by Mayor and CEO
cybercentric
5
4
Appointed
3
geocentric
2
1
1
2
3
4
5
geocentric
Elected
cybercentric

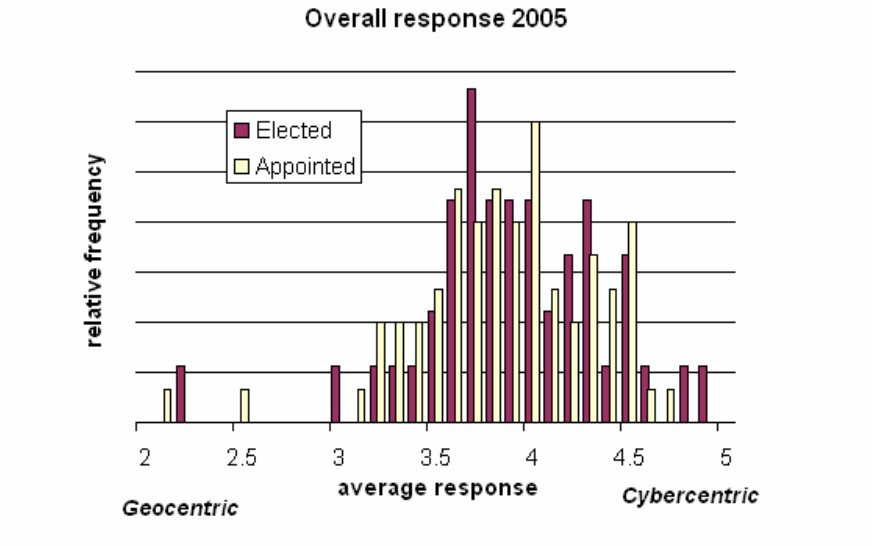

Strategic Vision by TMT leader pair
5
4
3
2
1
cybercentric
Appointed
geocentric
1
2
3
4
5
geocentric
Elected
cybercentric

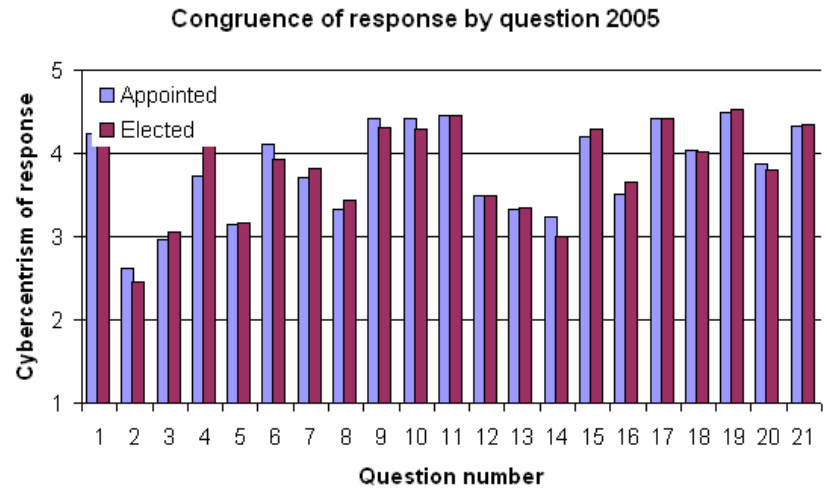

Trust by TMT leader pair
5
4
3
2
1
cybercentric
Appointed
geocentric
1
2
3
4
5
geocentric
Elected
cybercentric

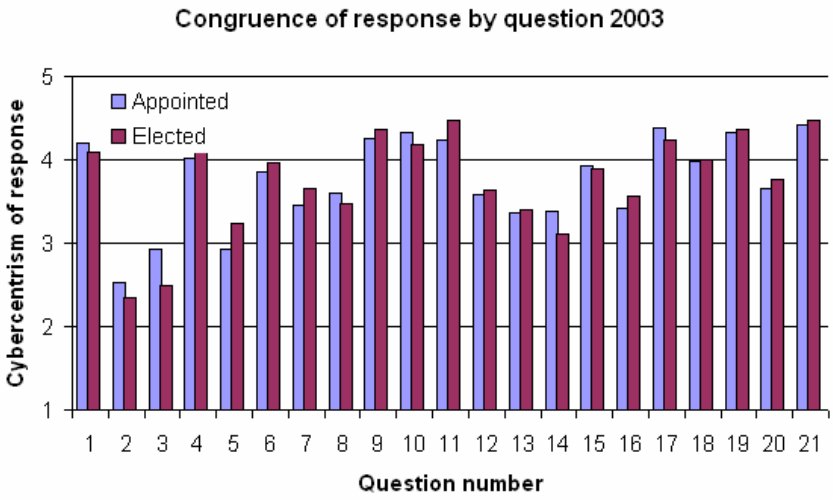
F.2 Survey statistics 2003 and 2005

F.2.1 Overall response



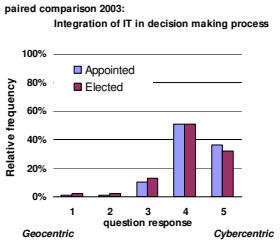


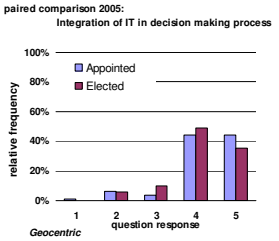

Congruence of response by question 2005
Appointed
Elected
Cybercentrism of response
1
2
3
4
5
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21
Question number

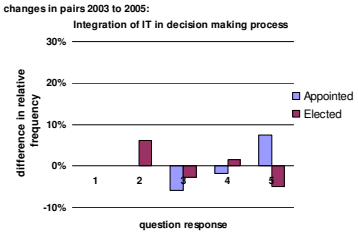

Congruence of response by question 2003
Appointed
Elected
Cybercentrism of response
1
2
3
4
5
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21
Question number

F.2.2 Individual survey question comparative responses

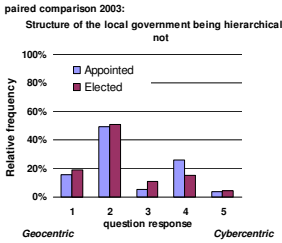
Question 1 Making sure Information Technology and Management Information Systems are integrated and used in key decision-making is important in local government.

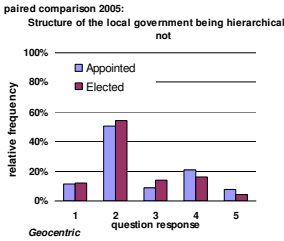


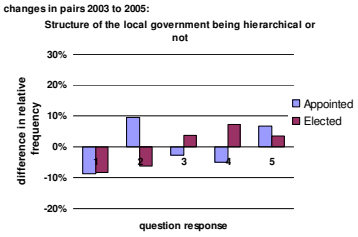




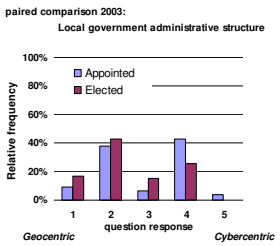
Question 2 My local government administrative structure is generally broad and hierarchical with vertical lines of authority to achieve the best outcome. (i.e. there are strict lines of reporting and responsibility between officers).

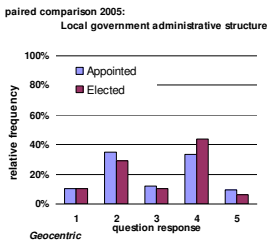


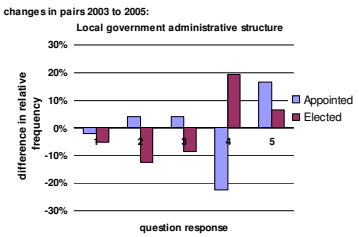




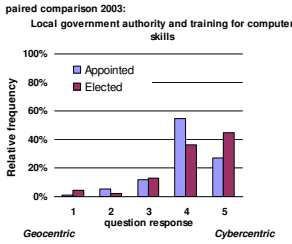
Question 3 My local government administrative structure is generally flat with horizontal lines of authority to achieve the best outcome. (i.e. there are flexible lines of reporting and responsibility between officers).

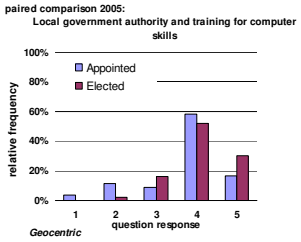


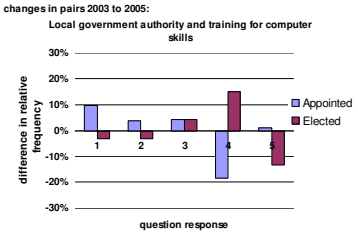




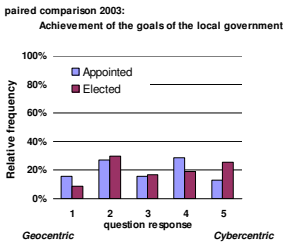
Question 4 My local government authority (LGA) is developing strategies to make sure our employees are computer literate and skilled in using the internet.

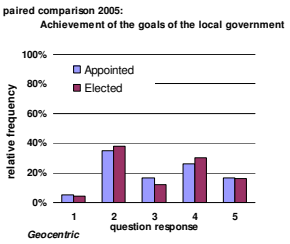


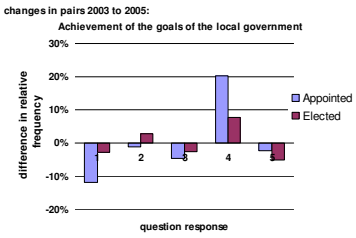




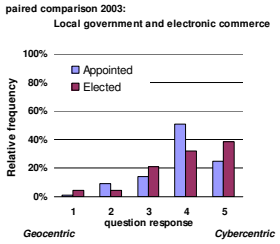
Question 5 Generally, the best outcome in local government is produced when goals and objectives are clearly articulated across the organisation and implemented without debate.

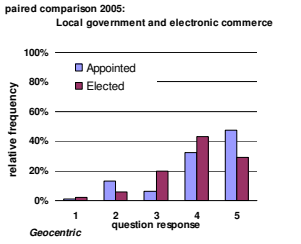


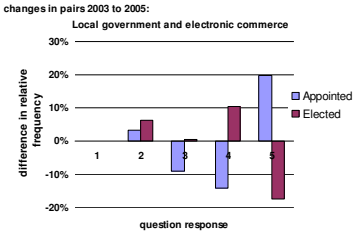




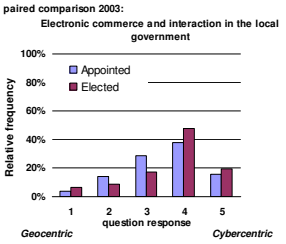
Question 6 The use of electronic commerce (E-commerce) is important in the delivery of local government services to the community (eg. payment of rates online).

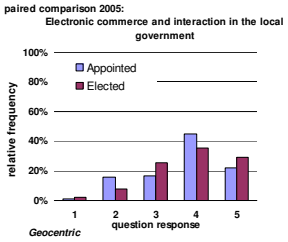


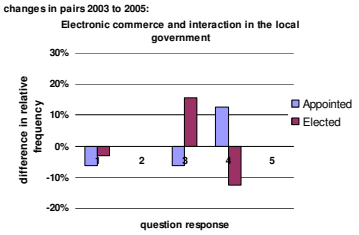




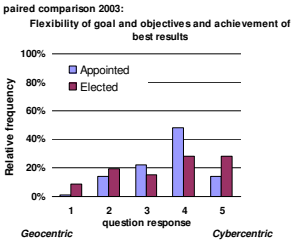
Question 7 The use of E-commerce is important in interactions between local government and its suppliers (eg. the use of Electronic Document Interchange (EDI) between suppliers and the local government authority).

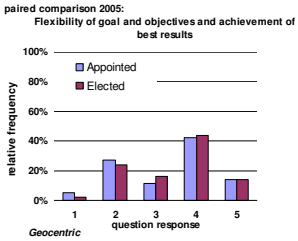


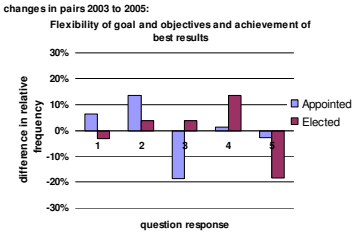




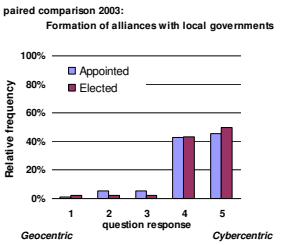
Question 8 Generally, the best outcome in local government is produced when goals and objectives are flexible.

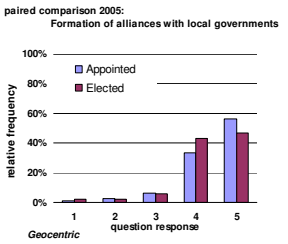


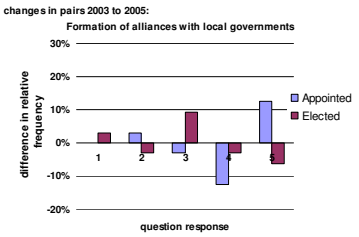




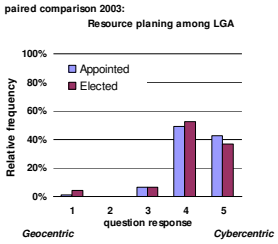
Question 9 Opportunities to form alliances with neighbouring local government authorities are an important means of providing mutually beneficial outcomes.

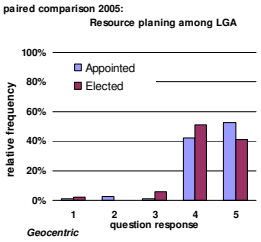


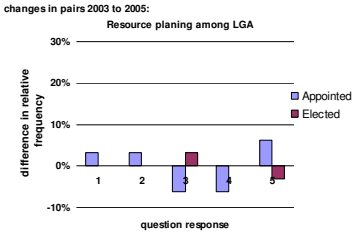




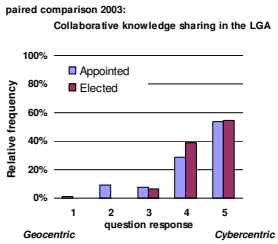
Question 10 Resource planning across all divisions/departments in our local government is important to produce the best outcome for our community. (i.e. consider the level of cooperation between divisions and departments to use resources in the most efficient way, for example through project planning across your LGA).

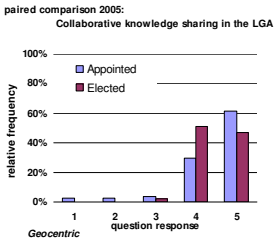


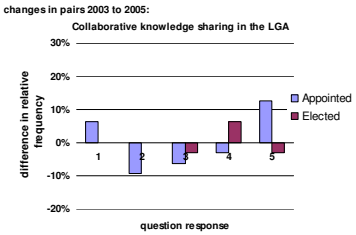




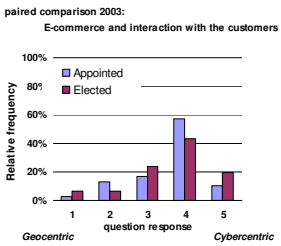
Question 11 Local government authorities should keep collaborative knowledge-sharing initiatives to a minimum.

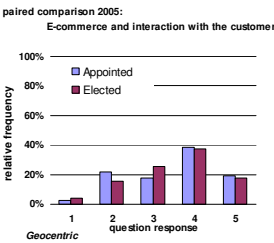


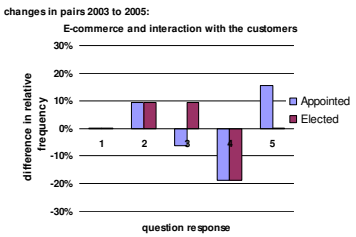




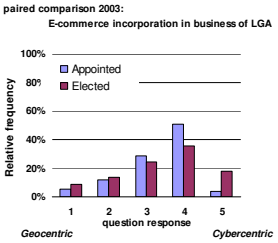
Question 12 My local government authority is developing strategies to incorporate E-commerce into the way we interact with our customers (including citizens, ratepayers, businesses, sporting groups, community groups etc.).

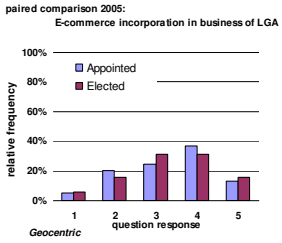


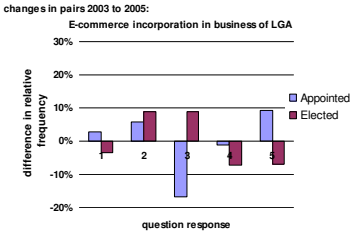




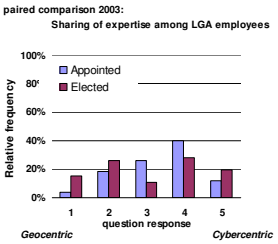
Question 13 My local government authority is developing strategies to incorporate E-commerce into the way we do business with our suppliers.

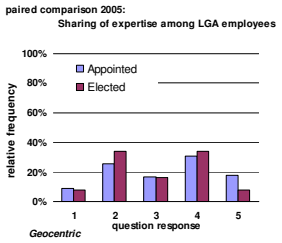


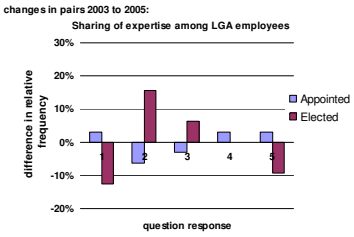




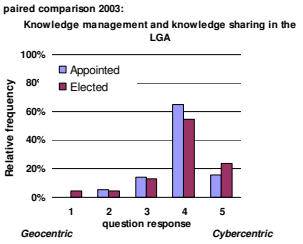
Question 14 Local government authorities should hold all necessary expertise among their employees to achieve the best outcome.

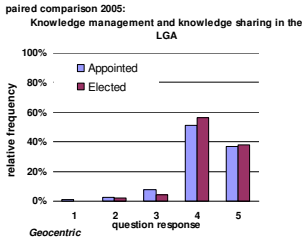


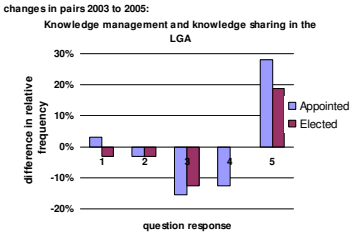




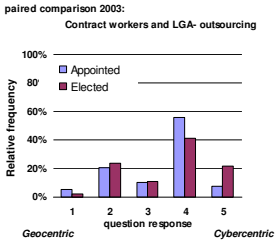
Question 15 My local government authority sees the development of strategies to efficiently utilise knowledge through knowledge-sharing partnerships as important. (i.e. consider the range of networking between individual officers, cross-council project teams or local government alliance websites your LGA supports).

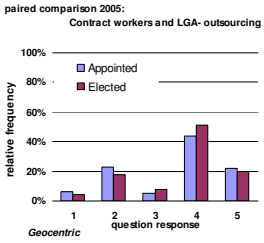


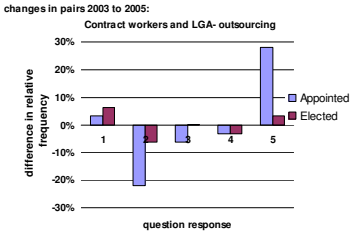




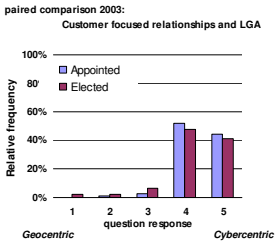
Question 16 My local government authority employs contract workers and consultants on a regular basis.

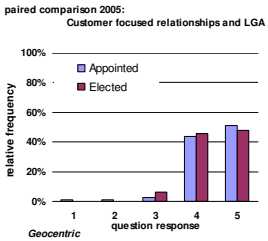


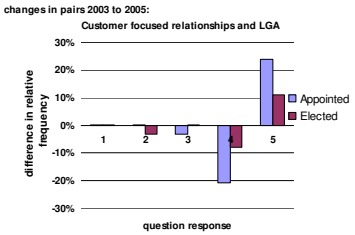




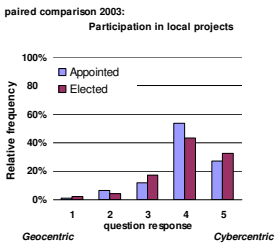
Question 17 My local government authority sees the development of a customer-focused relationship as important to success in delivering outcomes.

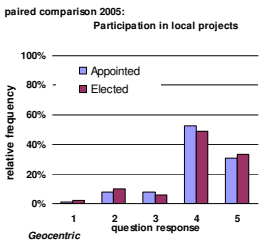


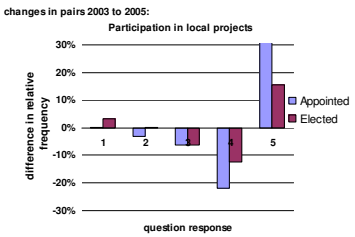




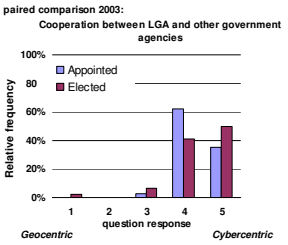
Question 18 My local government authority actively seeks opportunities to participate in projects on a regional basis.

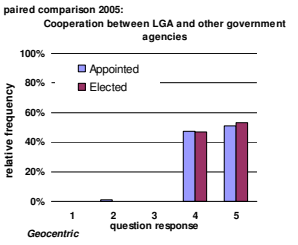


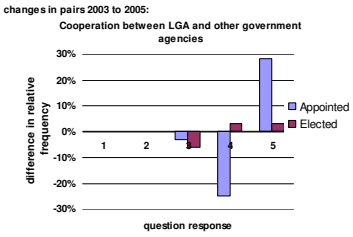




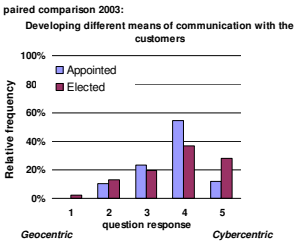
Question 19 Collaborative projects between local government authorities or other government agencies require trust between the partners to produce successful outcomes, even with clear documentation and lines of authority.

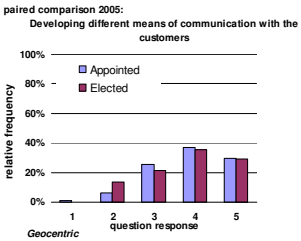


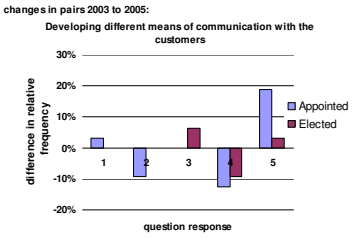




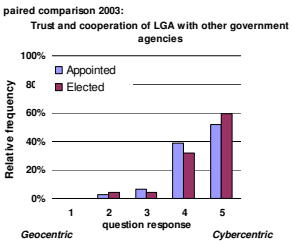
Question 20 While maintaining a physical point of contact (e.g. through having council offices), my local government authority believes it is important to develop different means to interact with customers in a virtual way to improve our decision-making (eg internet website; discussion groups and online forums; creation of a business portal).

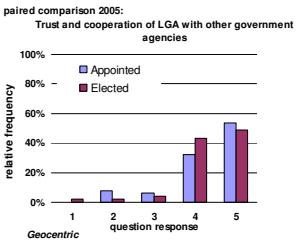


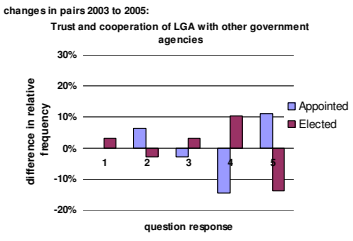




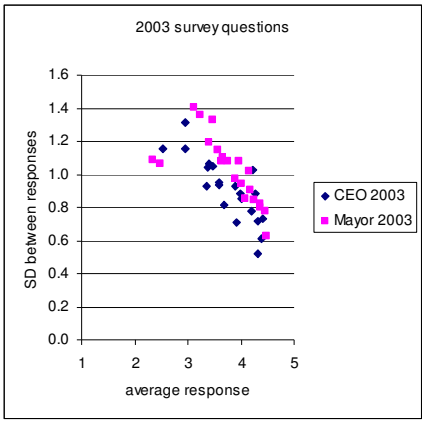
Question 21 Trust is not important in collaborative projects between local government authorities or other government agencies because each project must be associated with clear documentation and lines of authority.

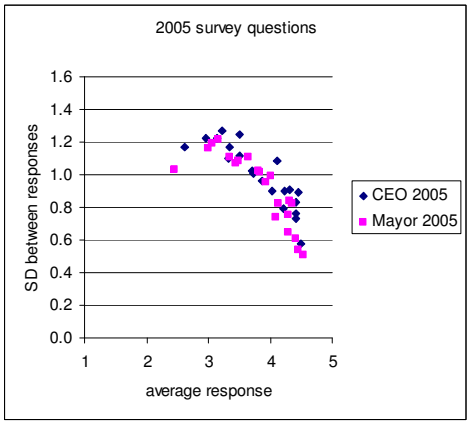


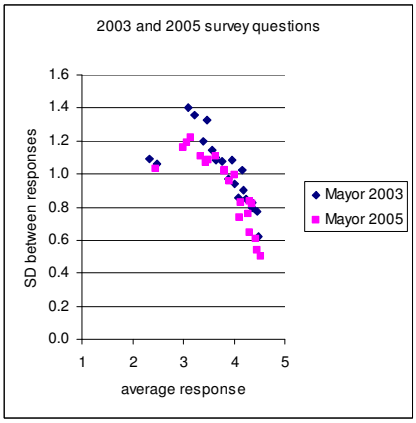


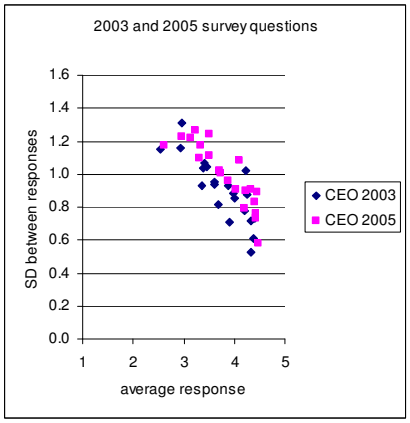


F.2.3 Cybercentrism plots – survey question SDs

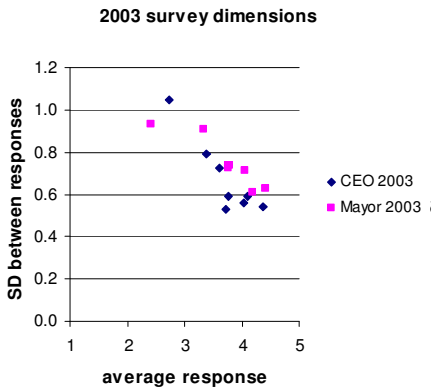


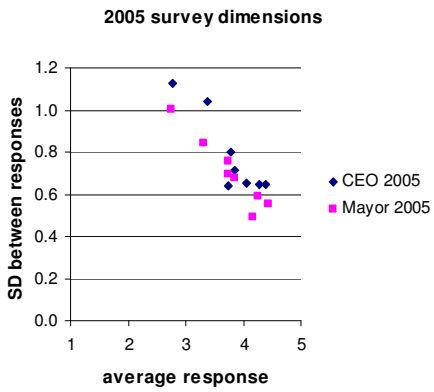


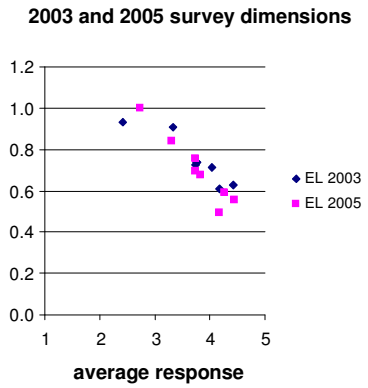


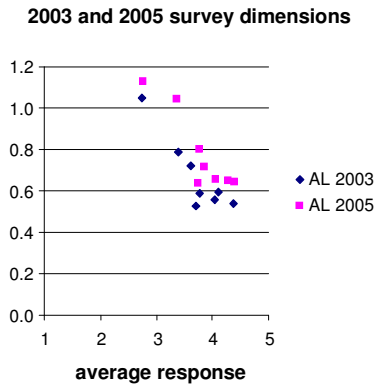


F.2.4 Cybercentrism plots – Dimension SDs





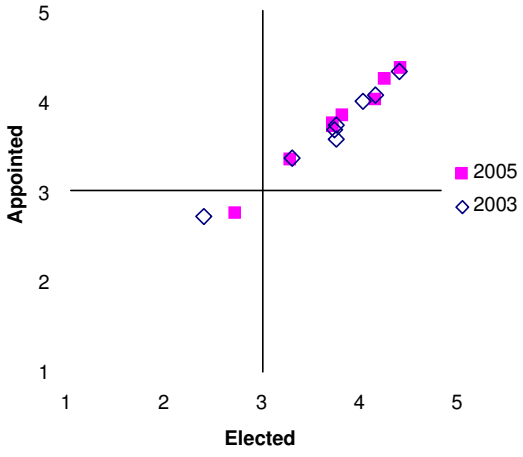




F.2.5 Comparative dimension cybercentrism ranking maps

F.2.5.1 Average overall response for 2003 and 2005

Average responses for TMT leader group overall aggregated into each of the 8 cybercentrism dimensions in 2003 and 2005. Overall congruence is seen between leader groups.

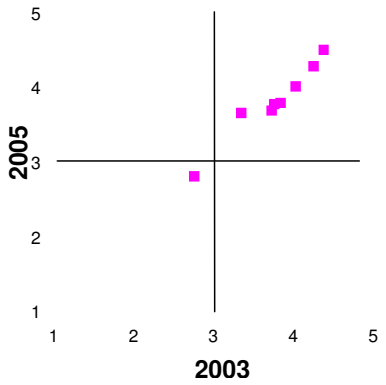


In ascending order of cybercentrism:

Corporate structure
Employment
Corporate Goals
Market Position
Strategic Vision
Management
Competitiveness
Trust

F.2.5.2 Average TMT appointed leader group responses for 2003 and 2005

Average appointed responses aggregated into each of the 8 cybercentrism dimensions in 2003 and 2005.

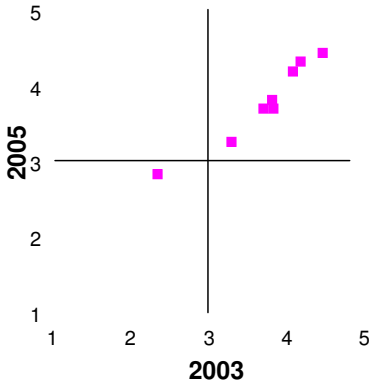


In ascending order of cybercentrism:

Corporate structure
Employment
Corporate Goals
Market Position
Strategic Vision
Management
Competitiveness
Trust

F.2.5.3 Average TMT elected leader group responses for 2003 and 2005

Average elected responses aggregated into each of the 8 cybercentrism dimensions in 2003 and 2005.

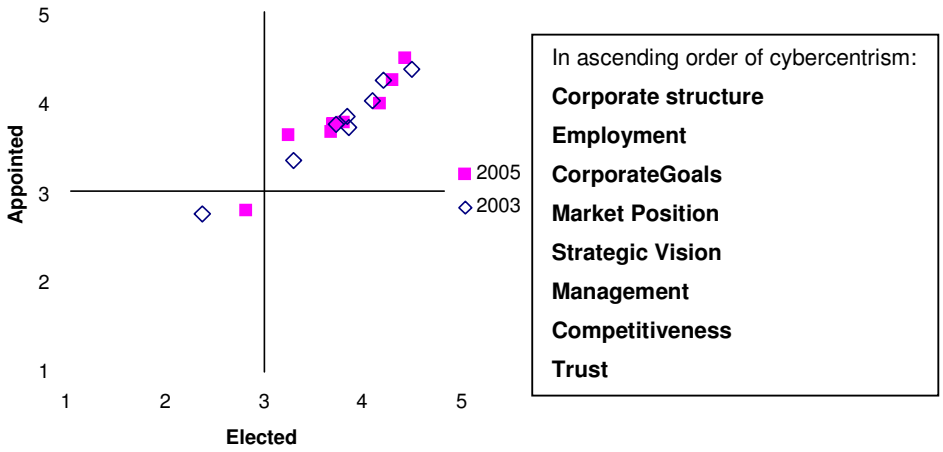


In ascending order of cybercentrism:

Corporate structure
Employment
Corporate Goals
Market Position
Strategic Vision
Management
Competitiveness
Trust

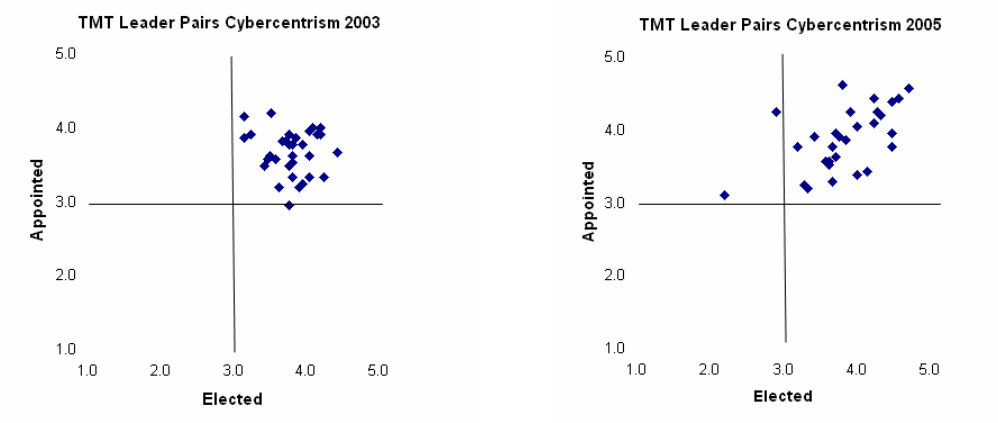
F.2.5.4 Average Paired TMT leader group responses

Average responses for each of the 8 cybercentrism dimensions, where paired responses are available from individual councils in either 2003 and/or 2005.



F.2.6 Cybercentrism maps - TMT leader pairs response 2003 and 2005

Results from individual councils where paired elected and appointed responses were available in 2003 and 2005.



F.3 Descriptive Statistics - Dimension Frequencies

	mman	mstruc	mgoals	mmark	mcomp	memp	mstrat	mtrust	cman	cstruc	cgoals	cmarkt	ccomp	cemp	cstrat	ctrust
Mean	4.1023	2.6115	3.5962	3.9774	4.2279	3.3750	3.5683	4.4394	4.0492	2.8192	3.6818	4.0806	4.1864	3.4924	3.5456	4.4280
Std. Deviation	.70571	.90359	.64123	.78655	.59288	.85626	.88415	.57355	.69645	1.08479	.52597	.73722	.64726	.87263	.77049	.53487
Minimum	1.00	1.00	1.67	1.00	1.75	1.50	1.00	2.50	1.00	1.00	2.67	1.00	1.00	1.00	1.00	3.00
Maximum	5.00	4.50	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00

F.4 Cybercentrism Dimension Pearson Correlations

Dimension		mman	mstruc	mgoals	mmark	mcomp	memp	mstrat	mtrust	cman	cstruc	cgoals	cmark	ccomp	cemp	cstrat	ctrust
mman	Pearson Correlation	1	-.079	.194	.700(**)	.460(**)	.247(*)	.600(**)	.282(*)	.134	-.349(**)	-.063	-.104	-.105	.111	-.002	.015
	Sig. (2-tailed)		.533	.118	.000	.000	.045	.000	.022	.282	.004	.617	.406	.400	.377	.984	.907
	N	66	65	66	66	66	66	66	66	66	65	66	66	66	66	66	66
mstruc	Pearson Correlation	-.079	1	.180	-.120	-.056	.073	.020	-.024	-.023	.282(*)	.073	.170	.064	.088	.070	.129
	Sig. (2-tailed)	.533		.151	.341	.658	.564	.873	.850	.856	.023	.565	.176	.615	.488	.581	.305
	N	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65
mgoal	Pearson Correlation	.194	.180	1	.285(*)	.384(**)	.236	.210	.050	.052	.043	.126	-.015	.025	.183	-.030	.094
	Sig. (2-tailed)	.118	.151		.021	.001	.057	.090	.691	.677	.732	.313	.903	.845	.141	.809	.455
	N	66	65	66	66	66	66	66	66	66	65	66	66	66	66	66	66
mmark	Pearson Correlation	.700(**)	-.120	.285(*)	1	.696(**)	.397(**)	.791(**)	.287(*)	.187	-.317(*)	.033	.095	-.006	.118	.127	.158
	Sig. (2-tailed)	.000	.341	.021		.000	.001	.000	.019	.133	.010	.795	.449	.962	.344	.311	.206
	N	66	65	66	66	66	66	66	66	66	65	66	66	66	66	66	66
mcomp	Pearson Correlation	.460(**)	-.056	.384(**)	.696(**)	1	.310(*)	.673(**)	.338(**)	.172	-.091	.040	-.022	.135	.167	.007	.263(*)
	Sig. (2-tailed)	.000	.658	.001	.000		.011	.000	.005	.168	.471	.752	.859	.280	.180	.958	.033
	N	66	65	66	66	66	66	66	66	66	65	66	66	66	66	66	66
memp	Pearson Correlation	.247(*)	.073	.236	.397(**)	.310(*)	1	.278(*)	.354(**)	.227	-.148	.202	.192	.195	.224	.336(**)	.301(*)
	Sig. (2-	.045	.564	.057	.001	.011		.024	.004	.067	.241	.104	.122	.117	.071	.006	.014

Dimension		mman	mstruc	mgoals	mmark	mcomp	memp	mstrat	mtrust	cman	cstruc	cgoals	cmark	ccomp	cemp	cstrat	ctrust
	tailed)																
	N	66	65	66	66	66	66	66	66	66	65	66	66	66	66	66	66
mstrat	Pearson Correlation	.600(**)	.020	.210	.791(**)	.673(**)	.278(*)	1	.361(**)	.270(*)	-.204	.132	.097	.024	.009	.106	.132
	Sig. (2-tailed)	.000	.873	.090	.000	.000	.024		.003	.028	.103	.291	.438	.847	.946	.396	.290
	N	66	65	66	66	66	66	66	66	66	65	66	66	66	66	66	66
mtrust	Pearson Correlation	.282(*)	-.024	.050	.287(*)	.338(**)	.354(**)	.361(**)	1	.049	-.093	-.025	-.115	.027	.149	.089	.117
	Sig. (2-tailed)	.022	.850	.691	.019	.005	.004	.003		.699	.464	.844	.357	.831	.233	.478	.349
	N	66	65	66	66	66	66	66	66	66	65	66	66	66	66	66	66
cman	Pearson Correlation	.134	-.023	.052	.187	.172	.227	.270(*)	.049	1	-.382(**)	.297(*)	.592(**)	.675(**)	.179	.607(**)	.260(*)
	Sig. (2-tailed)	.282	.856	.677	.133	.168	.067	.028	.699		.002	.015	.000	.000	.149	.000	.035
	N	66	65	66	66	66	66	66	66	66	65	66	66	66	66	66	66
cstruc	Pearson Correlation	-.349(**)	.282(*)	.043	-.317(*)	-.091	-.148	-.204	-.093	-.382(**)	1	-.062	-.274(*)	-.195	-.119	-.284(*)	-.173
	Sig. (2-tailed)	.004	.023	.732	.010	.471	.241	.103	.464	.002		.623	.027	.120	.344	.022	.167
	N	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65
cgoal	Pearson Correlation	-.063	.073	.126	.033	.040	.202	.132	-.025	.297(*)	-.062	1	.294(*)	.369(**)	.087	.347(**)	.330(**)
	Sig. (2-tailed)	.617	.565	.313	.795	.752	.104	.291	.844	.015	.623		.017	.002	.487	.004	.007
	N	66	65	66	66	66	66	66	66	66	65	66	66	66	66	66	66
cmark	Pearson Correlation	-.104	.170	-.015	.095	-.022	.192	.097	-.115	.592(**)	-.274(*)	.294(*)	1	.629(**)	.152	.719(**)	.318(**)
	Sig. (2-tailed)	.406	.176	.903	.449	.859	.122	.438	.357	.000	.027	.017		.000	.222	.000	.009

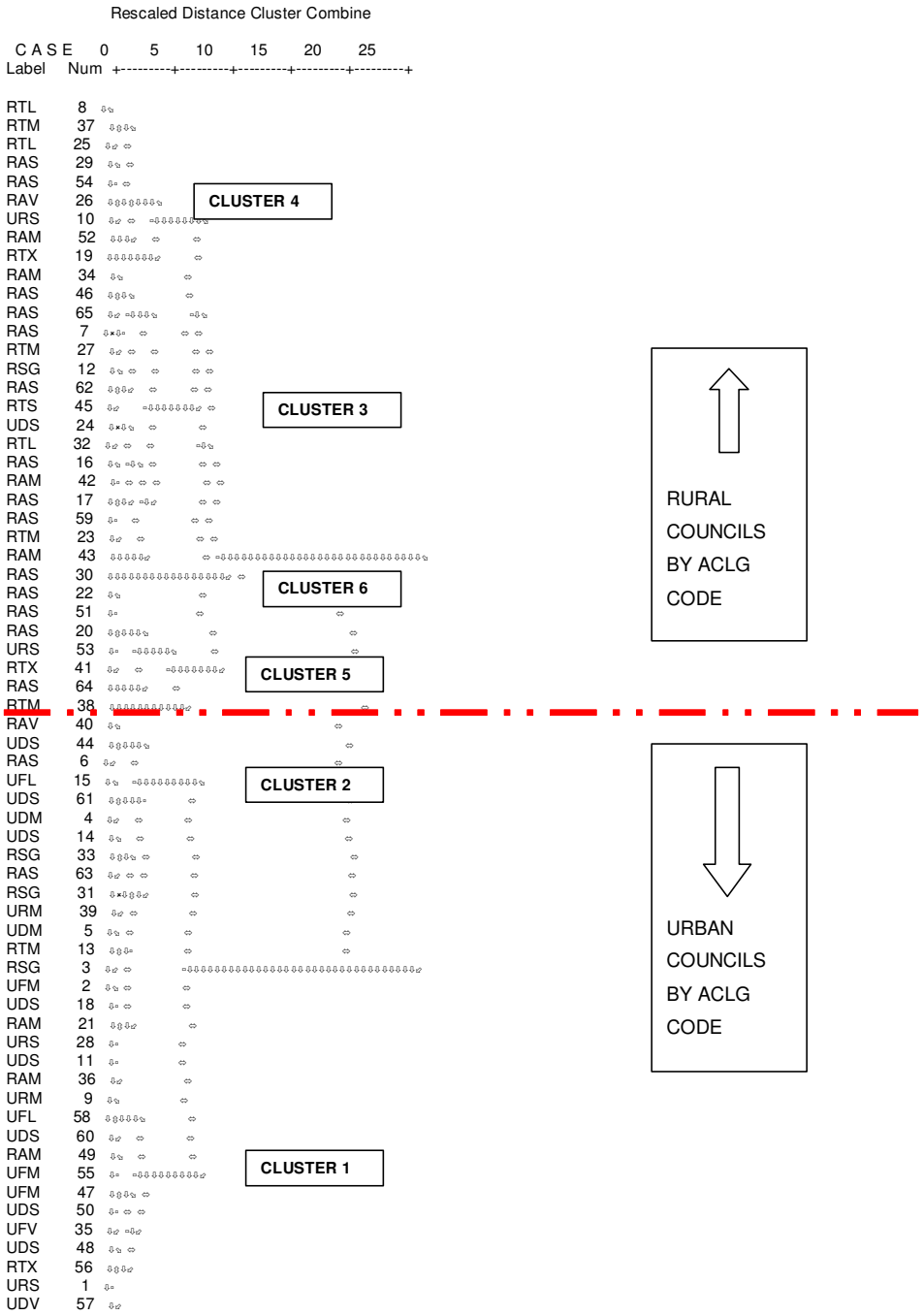
Dimension		mman	mstruc	mgoals	mmark	mcomp	memp	mstrat	mtrust	cman	cstruc	cgoals	cmark	ccomp	cemp	cstrat	ctrust
	N	66	65	66	66	66	66	66	66	66	65	66	66	66	66	66	66
ccomp	Pearson Correlation	-.105	.064	.025	-.006	.135	.195	.024	.027	.675(**)	-.195	.369(**)	.629(**)	1	.358(**)	.613(**)	.413(**)
	Sig. (2-tailed)	.400	.615	.845	.962	.280	.117	.847	.831	.000	.120	.002	.000		.003	.000	.001
	N	66	65	66	66	66	66	66	66	66	65	66	66	66	66	66	66
cemp	Pearson Correlation	.111	.088	.183	.118	.167	.224	.009	.149	.179	-.119	.087	.152	.358(**)	1	.153	.071
	Sig. (2-tailed)	.377	.488	.141	.344	.180	.071	.946	.233	.149	.344	.487	.222	.003		.222	.572
	N	66	65	66	66	66	66	66	66	66	65	66	66	66	66	66	66
cstrat	Pearson Correlation	-.002	.070	-.030	.127	.007	.336(**)	.106	.089	.607(**)	-.284(*)	.347(**)	.719(**)	.613(**)	.153	1	.409(**)
	Sig. (2-tailed)	.984	.581	.809	.311	.958	.006	.396	.478	.000	.022	.004	.000	.000	.222		.001
	N	66	65	66	66	66	66	66	66	66	65	66	66	66	66	66	66
ctrust	Pearson Correlation	.015	.129	.094	.158	.263(*)	.301(*)	.132	.117	.260(*)	-.173	.330(**)	.318(**)	.413(**)	.071	.409(**)	1
	Sig. (2-tailed)	.907	.305	.455	.206	.033	.014	.290	.349	.035	.167	.007	.009	.001	.572	.001	
	N	66	65	66	66	66	66	66	66	66	65	66	66	66	66	66	66

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

F.5 Cluster Analysis

ACLG/Dimension Hierarchical Cluster Dendrogram (Ward's Linkage)



F.6 Discriminant Analysis

F.6.1 Cybercentrism dimension identification codes (for use with Group Statistics, section F.6.2 (below)

SPSS Discriminant Code	Related TMT Leader and Cybercentrism Dimension
mman	Elected Management
mstruc	Elected Corporate Structure
mgoals	Elected Corporate Goals
mmarket	Elected Market Position
mcompet	Elected Competitiveness
memploy	Elected Employment
mstrat	Elected Strategic Vision
mtrust	Elected Trust
cman	Appointed Management
cstruc	Appointed Corporate Structure
cgoals	Appointed Corporate Goals
cmarket	Appointed Market Position
ccompet	Appointed Competitiveness
cemploy	Appointed Employment
cstrat	Appointed Strategic Vision
ctrust	Appointed Trust

F.6.2 Group Statistics

Cluster Number and Dimension		Mean	Std. Deviation	Valid N (listwise)	
				Unweighted	Weighted
1.00	mman	4.6667	.38925	12	12.000
	mstruc	3.1875	.71609	12	12.000
	mgoals	3.9025	.67558	12	12.000
	mmarket	4.6250	.42726	12	12.000
	mcompet	4.5108	.33104	12	12.000
	memploy	4.1042	.44541	12	12.000
	mstrat	4.4025	.46790	12	12.000
	mtrust	4.6042	.47023	12	12.000
	cman	4.7292	.39107	12	12.000
	cstruc	2.6042	1.03055	12	12.000
	cgoals	4.1675	.50232	12	12.000
	cmarket	4.6108	.28005	12	12.000
	ccompet	4.6150	.47441	12	12.000
	cemploy	4.2292	.53787	12	12.000
	cstrat	4.1375	.41922	12	12.000
	ctrust	4.6875	.41458	12	12.000
2.00	mman	4.3500	.32847	20	20.000
	mstruc	2.0375	.66032	20	20.000
	mgoals	3.5085	.60846	20	20.000
	mmarket	4.4170	.40969	20	20.000
	mcompet	4.4695	.39082	20	20.000
	memploy	3.5125	.87161	20	20.000
	mstrat	4.0350	.38731	20	20.000
	mtrust	4.5875	.45360	20	20.000
	cman	4.2500	.42920	20	20.000
	cstruc	1.9000	.48259	20	20.000
	cgoals	3.6580	.55986	20	20.000
	cmarket	4.1410	.52501	20	20.000
	ccompet	4.2255	.42639	20	20.000
	cemploy	3.1375	.57052	20	20.000
	cstrat	3.6840	.68286	20	20.000
	ctrust	4.6375	.33907	20	20.000
3.00	mman	3.8750	.49160	16	16.000
	mstruc	3.5000	.59861	16	16.000
	mgoals	3.7619	.48653	16	16.000
	mmarket	3.5413	.54648	16	16.000
	mcompet	4.1331	.36954	16	16.000
	memploy	3.1563	.82601	16	16.000
	mstrat	3.2181	.61125	16	16.000
	mtrust	4.3281	.47186	16	16.000
	cman	3.7188	.38595	16	16.000
	cstruc	3.6094	.77443	16	16.000
	cgoals	3.5325	.36095	16	16.000
	cmarket	4.1244	.55945	16	16.000
	ccompet	4.1806	.45341	16	16.000

Cluster Number and Dimension		Mean	Std. Deviation	Valid N (listwise)	
				Unweighted	Weighted
	cemploy	3.5156	.80864	16	16.000
	cstrat	3.3238	.67587	16	16.000
	ctrust	4.3438	.57645	16	16.000
4.00	mman	3.7778	.42287	9	9.000
	mstruc	1.8333	.35355	9	9.000
	mgoals	3.3889	.84072	9	9.000
	mmarket	3.3711	.69026	9	9.000
	mcompet	3.6122	.75935	9	9.000
	memploy	2.9444	.95015	9	9.000
	mstrat	2.3144	.51870	9	9.000
	mtrust	4.1111	.86703	9	9.000
	cman	4.0000	.33072	9	9.000
	cstruc	2.4167	.43301	9	9.000
	cgoals	3.3878	.24974	9	9.000
	cmarket	3.9633	.39689	9	9.000
	ccompet	4.1678	.39099	9	9.000
	cemploy	4.0833	.37500	9	9.000
	cstrat	3.4267	.42647	9	9.000
	ctrust	4.0556	.54167	9	9.000
5.00	mman	3.9643	.98349	7	7.000
	mstruc	2.1786	.55367	7	7.000
	mgoals	3.3329	.42991	7	7.000
	mmarket	4.0000	.38682	7	7.000
	mcompet	4.4114	.43675	7	7.000
	memploy	3.0357	.50885	7	7.000
	mstrat	3.7129	.48812	7	7.000
	mtrust	4.6786	.42608	7	7.000
	cman	3.0000	1.08012	7	7.000
	cstruc	4.2143	.48795	7	7.000
	cgoals	3.4029	.26998	7	7.000
	cmarket	2.7871	1.02222	7	7.000
	ccompet	3.1800	1.05570	7	7.000
	cemploy	3.0714	.96517	7	7.000
	cstrat	2.4757	.73514	7	7.000
	ctrust	3.9643	.61962	7	7.000
6.00	mman	1.0000	.(a)	1	1.000
	mstruc	3.0000	.(a)	1	1.000
	mgoals	2.3300	.(a)	1	1.000
	mmarket	1.0000	.(a)	1	1.000
	mcompet	2.0000	.(a)	1	1.000
	memploy	3.0000	.(a)	1	1.000
	mstrat	1.0000	.(a)	1	1.000
	mtrust	3.0000	.(a)	1	1.000
	cman	4.5000	.(a)	1	1.000
	cstruc	5.0000	.(a)	1	1.000
	cgoals	5.0000	.(a)	1	1.000
	cmarket	5.0000	.(a)	1	1.000
	ccompet	5.0000	.(a)	1	1.000

Cluster Number and Dimension		Mean	Std. Deviation	Valid N (listwise)	
				Unweighted	Weighted
	cemploy	1.0000	.(a)	1	1.000
	cstrat	4.3300	.(a)	1	1.000
	ctrust	5.0000	.(a)	1	1.000
Total	mman	4.1192	.69752	65	65.000
	mstruc	2.6115	.90359	65	65.000
	mgoals	3.5900	.64421	65	65.000
	mmarket	3.9975	.77538	65	65.000
	mcompet	4.2314	.59680	65	65.000
	memploy	3.3962	.84536	65	65.000
	mstrat	3.5822	.88382	65	65.000
	mtrust	4.4462	.57536	65	65.000
	cman	4.0423	.69957	65	65.000
	cstruc	2.8192	1.08479	65	65.000
	cgoals	3.6769	.52855	65	65.000
	cmarket	4.0665	.73388	65	65.000
	ccompet	4.1777	.64843	65	65.000
	cemploy	3.5231	.84285	65	65.000
	cstrat	3.5232	.75457	65	65.000
	ctrust	4.4269	.53896	65	65.000

a Insufficient data

F.6.3 Summary of Canonical Discriminant Functions

Eigenvalues

Function	Eigenvalue	% of Variance	Cumulative %	Canonical Correlation
1	6.456(a)	44.2	44.2	.931
2	3.659(a)	25.1	69.3	.886
3	2.426(a)	16.6	85.9	.841
4	1.489(a)	10.2	96.1	.773
5	.569(a)	3.9	100.0	.602

a First 5 canonical discriminant functions were used in the analysis.

Standardized Canonical Discriminant Function Coefficients

	Function				
	1	2	3	4	5
mman	.546	.388	.163	.421	-.176
mstruc	.224	.768	.293	.026	-.218
mgoals	.052	.260	-.212	.239	-.385
mmarket	.202	-.490	-.083	.149	.485
mcompet	-.190	-.179	.554	-.079	-.573
memploy	.215	.201	-.077	-.204	.271
mstrat	.595	.076	.258	-.569	.012
mtrust	.039	-.205	.239	.009	-.116
cman	.406	.002	-.408	.097	.585
cstruc	-.323	.517	.413	-.076	.453
cgoals	.220	.319	-.068	-.289	.504
cmarket	.147	.560	-.107	.220	-.420
ccompet	-.162	.337	-.339	-.119	-.456
cemploy	.497	-.032	.385	.797	.513
cstrat	-.071	-.149	-.053	-.054	-.069
ctrust	.341	-.060	-.270	-.329	.021

Structure Matrix

	Function				
	1	2	3	4	5
mstrat	.526(*)	-.120	.349	-.465	-.059
mmarket	.452(*)	-.244	.220	-.114	-.020
mman	.375(*)	-.151	.211	.139	-.119
memploy	.196(*)	.054	-.029	-.088	.144
mstruc	.059	.567(*)	.226	-.004	-.252
cstruc	-.315	.346	.449(*)	-.170	.369
cman	.297	.103	-.420(*)	.011	.143
cmarket	.196	.262	-.386(*)	.041	-.177
cstrat	.209	.136	-.340(*)	-.021	.050
ccompet	.154	.204	-.338(*)	.053	-.076
mcompet	.280	-.136	.332(*)	-.153	-.252
mtrust	.136	-.108	.194(*)	-.074	-.048
cemploy	.165	.085	.067	.585(*)	.246
ctrust	.157	.077	-.181	-.242(*)	-.125
cgoals	.140	.198	-.181	-.249	.412(*)
mgoals	.119	.097	.105	.122	-.150(*)

Pooled within-groups correlations between discriminating variables and standardized canonical discriminant functions

Variables ordered by absolute size of correlation within function.

* Largest absolute correlation between each variable and any discriminant function

Classification Statistics

Classification Function Coefficients

	cluster6					
	1.00	2.00	3.00	4.00	5.00	6.00
mman	46.066	40.021	41.759	38.723	36.517	28.685
mstruc	21.630	16.580	21.244	15.428	16.419	18.144
mgoals	8.287	7.413	8.814	8.120	4.843	8.469
mmarket	1.938	2.716	-2.188	2.841	2.004	-6.259
mcompet	-6.694	-3.534	-1.827	-4.863	.824	-11.384
memploy	3.888	2.212	1.957	1.029	1.347	3.797
mstrat	16.402	13.422	10.658	5.753	11.133	4.687
mtrust	14.141	15.090	14.282	14.215	16.194	8.581
cman	23.417	20.361	17.017	19.901	16.058	19.035
cstruc	8.930	6.419	10.997	8.221	11.279	14.824
cgoals	29.974	25.621	25.815	23.543	24.906	32.023
cmarket	28.456	25.235	28.651	25.422	22.362	27.461
ccompet	-4.758	-4.168	-2.101	-3.924	-6.626	5.736
cemploy	18.273	13.824	13.800	15.257	14.153	-.257
cstrat	-12.062	-10.664	-11.483	-10.709	-10.694	-10.661
ctrust	22.784	22.454	18.629	18.422	17.940	20.802
(Constant)	-477.004	-375.571	-376.970	-318.390	-321.903	-333.726

Fisher's linear discriminant functions

Functions at Group Centroids

	Function				
cluster6	1	2	3	4	5
1.00	3.715	1.596	.089	.193	.808
2.00	1.128	-1.684	-.774	-.775	-.489
3.00	-1.313	2.022	.823	.290	-.776
4.00	-2.188	-1.219	-1.434	2.211	.458
5.00	-2.552	-1.743	2.939	-.923	.939
6.00	-8.575	5.342	-6.421	-4.903	1.810

Unstandardized canonical discriminant functions evaluated at group means

F.6.4 Classification Results

cluster6			Predicted Group Membership						Total
			1.00	2.00	3.00	4.00	5.00	6.00	
Original	Count	1.00	12	0	0	0	0	0	12
		2.00	0	20	0	0	0	0	20
		3.00	0	1	15	0	0	0	16
		4.00	0	0	0	9	0	0	9
		5.00	0	0	0	0	7	0	7
		6.00	0	0	0	0	0	1	1
	%	1.00	100.0	.0	.0	.0	.0	.0	100.0
		2.00	.0	100.0	.0	.0	.0	.0	100.0
		3.00	.0	6.3	93.8	.0	.0	.0	100.0
		4.00	.0	.0	.0	100.0	.0	.0	100.0
		5.00	.0	.0	.0	.0	100.0	.0	100.0
		6.00	.0	.0	.0	.0	.0	100.0	100.0

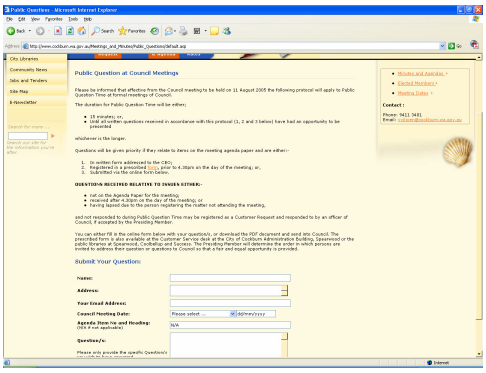
a 98.5% of original grouped cases correctly classified.

G APPENDIX SEVEN

G.1 e-SAT Guidelines

Complete/Submit Forms Online

Refers to completion and submission of online forms (other than consultation feedback, employment and tenders, which are dealt with in separate areas of the tool).For example council meeting question (*see below*), change of address, application for services, works requests etc. Need to have online form which can be completed and submitted online in the one process.



Does not refer to submitting an email request/complaint (eg. Feedback and Have Your Say forms) which supplement use of email.

Consultation Module

Refers to a specific area set aside for seeking consultation through the provision of information and the ability to respond to this information online. This encompasses a method of indicating the stage of the consultation for each project (eg open for comment, under officer consideration, council decision made).

It does not refer to feedback forms (complaints, path problems etc.) which are encompassed in the Interact section through the assessment of the ability to *complete/submit forms online*.

Email to Officers/Councillors

Feedback forms are treated as a class of email to officers and councillors, as this is their purpose. These are counted for frequency purposes as one class. If this is the only method of contact the functionality is regarded as *token*.

If there is email to separate officers and no other online feedback form, the frequency of this item is *one* and is *functional*.

If there is an online feedback form plus email to officers, the frequency is *many* and the functionality is *functional*.

If email to officers is all directed through the one council address (eg info@council.wa.gov.au), the frequency is regarded as *one* while the functionality is considered *token*. If there is also an online feedback form, the frequency is considered *many* and *functional*.

If there are no individual or group email addresses for councillors, the general contact email is *not* regarded as e-mail to councillors unless there is an invitation to use it for this purpose.

If separate email addresses are provided for councillors, the frequency is regarded as *one* while the functionality is considered *functional*. However, if there is also a feedback form, this is only entered as a frequency of *many* and *functional* if there is an invitation to use the form to contact councillors also.

Employment

Considered *functional* only if ability to complete and submit online is present. Otherwise considered *token*. Downloadable information package must be available to be considered *present*.

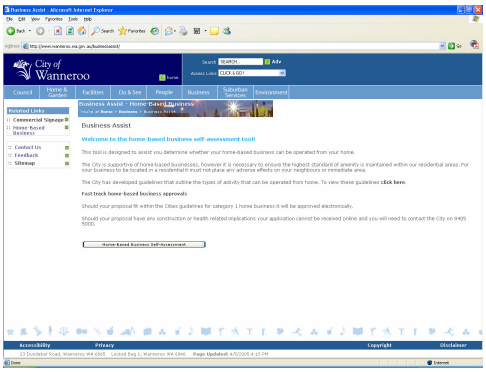
E-Consultation

Considered present if dedicated area set aside for all documents relating to consultation, along with method of submitting feedback. Could be called something like *Have A Say* or *Community Consultation.* Rated as *token* if no online submission method (either via specific form or by email) is offered, even if an extensive number of consultations is available for comment.

Household panels, citizen juries etc., although valid consultation mechanisms, are not rated as an item unless they include some element of online discussion/networking. Using an online submission form to express interest is classed as an item in the *submit forms online* category rather than an e-consultation item.

E-CRM

This includes website items which enable customers to interact with the council such as customer request tracking, interactive GIS, planning application online submission, or business application fast-tracking through electronic approval.



It is not ‘Have Your Say’ or a customer feedback form which does not supply a tracking number in return. It implies the ability to submit a request online and receive a tracking number or similar to enable citizen to track progress of the request online or perform a search for information which would otherwise have to be supplied by council officers (eg GIS).

E-News/E-Newsletter

Includes news articles, media releases, events calendars as well as specific newsletters. If only one type of news item is present, frequency is *one.* If newsletters and more are also present, frequency is *many*.

E-News Subscription

Ability to subscribe or sign up for information or participation in council interaction is available online via the website. This does not only refer to Newsletter subscription. It can also refer to such things as signing up to be informed when something changes or is implemented or for mailing lists. This can be done via an online form. It could also include such functionality as *RSS*

E-Newsletter

Community newsletter available onsite as well as in hard copy. If not available in downloadable format, the functionality is considered *token*.

Frequency

Generally refers to the number of different types of the item present. For example, information on community groups only would be rated as a frequency of *one* in the Information Portal section. Information on sporting groups, tourism, education etc. would give a frequency rating of *many*. If there is nothing present in the item, the frequency is *none.*

However, with respect to the Employment, Tenders and E-Consultation sections, there is likely to only be one such area on a site. Frequency therefore refers to the number of items present in the dedicated area

(e.g. more than one consultation item, many employment options or tenders or evidence that this has been the case in the recent past, even though there may be no items present at the time the site was examined).

Functionality

If the item has been set up, but not populated the functionality is *token*. If the item has been populated but not for some time, the functionality is *redundant*. If the item is populated and current, the functionality is *functional.*

Information Documents

Include general information documents and statutory documents including:

- Council Policies
- Local Laws
- Planning Documents

One or many chosen relative to the number of classes of documents, not the absolute number of documents (eg council minutes is one class of document).

Integrated Supply Chain

Managing the "virtual" enterprise composed of suppliers and customers. It is based on collaborative behaviour to facilitate streamlined business processes and mutual benefits (Dictionary of Marketing Terms). In the council context, this includes such things as purchasing and “buy local” policies to manage outsourcing of council service delivery. It does not include advertisement of tenders, which is separately examined.

Level

The page on the website at which the option to select relevant material is first made available relative to the homepage (*h0*). In the case of information documents, this may be at a different level to the general Information heading (usually found on the homepage) as it may not be until *h1* or *h2* that the option to assess and select documents relevant to a query is made available.

If the information or facility is made accessible at various levels, the level entered is the one at which the information or facility can first be accessed.

Payment Online

Frequency is recorded as *one* if only rates payment is available (eg through Telstra payment link). Frequency is recorded as *many* if more than one type of bill payment is possible (eg through State Government's FastPay website or for sundry debtor payments as well as rates).

Portal

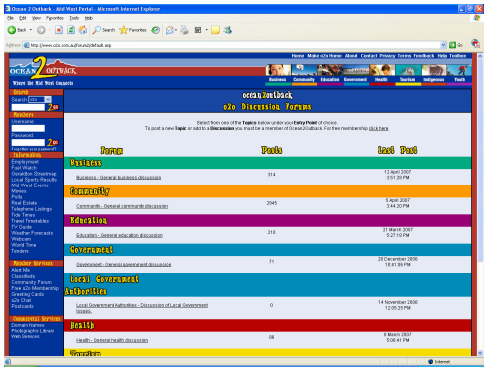
A website that provides access and links to other sites and pages on the Web . Search engines and online directories are the most common portal sites.

The key concept is the interactive linkage to other web entities, not just a list of businesses and that the interaction is completed entirely online, either by accessing websites or utilizing email addresses. This could be supplied by the LGA on its site, or by the provision of a link to a local community portal providing this facility (eg MySouthWest, AlbanyGateway etc)

- **Community Portal**

Implies the ability for community interaction in an online environment.

This could be supplied by the LGA on its site, or by the provision of a link to a local portal providing this facility (eg Ocean2Outback, MySouthWest, AlbanyGateway etc.).



- **Information Portal**

Provides links to websites and pages on the web that enhance knowledge of community services and facilities**.**

- **Central Government Portal**

Provides links to government websites and pages on the web of perceived value to that community.

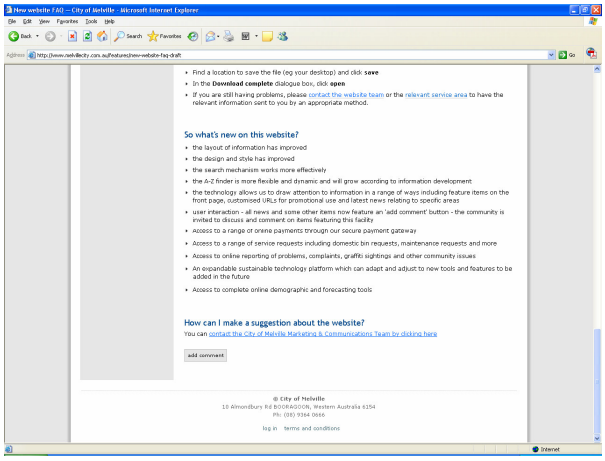
Local government links only gives a frequency of *one*, state government links also included would give a frequency of *many*. If the item is present but not populated, this would have a frequency of *none* and a functionality of *token*. If the item is populated, but has not been updated for some time, the functionality would be *redundant.*

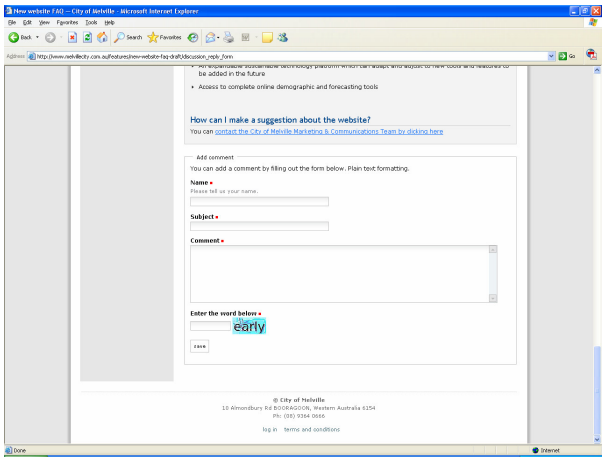
Privacy Statement

This can include a statement on the homepage about general information exchange privacy measure (frequency of *one*). If information for another area (eg transactional security) is also included this gives a frequency of *many*.

Public Message Board

An area for members of the community to post comments and replies to topics (eg the Melville FAQs section for the new website)





Search

Can include site map (sometimes referred to as Hot Links, Quick Links or Quick Select or similar) as well as search box. If more than one type of search facility is available, the frequency is *many*.

If the quicklinks box only mirrors the site navigation links on the homepage it is not considered a separate item

Strategic Documents

Include:

- Strategic Plan
- Principal Activities Plan
- Regional Strategies

Tenders

Considered *functional* if information and documents are made available, even though online submission is not offered, as council legal requirements often mandate hard copy submission.

Web Discussion Spaces

Online forums where both citizens and council can discuss and post topics relevant to the local community. Not a community portal, which is more developed and allows community interaction in more areas. More developed than a public message board, which involves discussion between citizens. May be linked to a consultation or some other issue of interest where there is two-way interaction between council and citizens.

G.2 Website Assessment Results

G.2.1 e-Government PUBLISH

Table G.2.1.1 e-Government Publish/Information Documents - ALL COUNCILS

e-Government	2003			2005			2007		
Publish	**None %**	**One %**	**Many %**	**None %**	**One %**	**Many %**	**None %**	**One %**	**Many %**
Not present	8	0	0	7	0	0	5	0	0
Token	0	21	0	0	16	0	0	7	2
Functional	0	8	63	0	2	75	0	5	78
Redundant	0	0	0	0	0	0	0	2	0

Table G.2.1.2 e-Government Publish/Information Documents – URBAN COUNCILS

e-Government	2003			2005			2007		
Publish	**None %**	**One %**	**Many %**	**None %**	**One %**	**Many %**	**None %**	**One %**	**Many %**
Not present	5	0	0	0	0	0	4	0	0
Token	0	9	0	0	5	0	0	0	0
Functional	0	5	82	0	0	95	0	4	93
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.1.3 e-Government Publish/Information Documents - RURAL COUNCILS

e-Government	2003			2005			2007		
Publish	**None %**	**One %**	**Many %**	**None %**	**One %**	**Many %**	**None %**	**One %**	**Many %**
Not present	11	0	0	13	0	0	7	0	0
Token	0	33	0	0	26	0	0	14	4
Functional	0	11	44	0	4	57	0	7	64
Redundant	0	0	0	0	0	0	0	4	0

Table G.2.1.4 e-Government Publish/Strategic Documents – ALL COUNCILS

e-Government	2003			2005			2007		
Publish	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	29	0	0	27	0	0	24	0	0
Token	0	21	0	0	14	0	0	11	2
Functional	0	2	48	0	2	57	0	0	64
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.1.5 e-Government Publish/Strategic Documents - URBAN COUNCILS

e-Government	2003			2005			2007		
Publish	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	0	0	0	0	0	0	4	0	0
Token	0	27	0	0	14	0	0	7	0
Functional	0	0	73	0	0	86	0	0	89
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.1.6 e-Government Publish/Strategic Documents - RURAL COUNCILS

e-Government	2003			2005			2007		
Publish	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	56	0	0	52	0	0	43	0	0
Token	0	19	0	0	13	0	0	14	4
Functional	0	4	22	0	4	30	0	0	39
Redundant	0	0	0	0	0	0	0	0	0

G.2.2 e-Government INTERACT

Table G.2.2.1 e-Government Interact/Downloadable Documents – ALL COUNCILS

e-Government	2003			2005			2007		
Interact	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	12	0	0	14	0	0	4	0	0
Token	0	8	0	2	2	0	0	2	2
Functional	0	10	71	0	7	75	0	4	89
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.2.2 e-Government Interact/Downloadable Documents - URBAN COUNCILS

e-Government	2003			2005			2007		
Interact	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	0	0	0	0	0	0	0	0	0
Token	0	5	0	0	0	0	0	0	4
Functional	0	5	91	0	0	100	0	0	96
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.2.3 e-Government Interact/Downloadable Documents - RURAL COUNCILS

e-Government	2003			2005			2007		
Interact	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	22	0	0	26	0	0	7	0	0
Token	0	11	0	4	4	0	0	4	0
Functional	0	15	52	0	13	52	0	7	82
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.2.4 e-Government Interact/Submit forms online frequency and functionality - ALL COUNCILS

e-Government	2003			2005			2007		
Interact	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	77	0	0	66	0	0	60	0	0
Token	0	12	2	0	18	0	0	4	0
Functional	0	0	10	0	9	7	0	4	33
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.2.5 e-Government Interact/Submit forms online frequency and functionality - URBAN COUNCILS

e-Government	2003			2005			2007		
Interact	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	59	0	0	57	0	0	41	0	0
Token	0	27	0	0	10	0	0	4	0
Functional	0	0	14	0	19	14	0	7	48
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.2.6 e-Government Interact/Submit forms online - RURAL COUNCILS

e-Government	2003			2005			2007		
Interact	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	96	0	0	74	0	0	79	0	0
Token	0	0	4	0	26	0	0	4	0
Functional	0	0	0	0	0	0	0	0	18
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.2.7 e-Government Interact/Site search - ALL COUNCILS

e-Government	2003			2005			2007		
Interact	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	48	0	0	30	0	0	16	0	0
Token	0	0	0	0	2	0	0	2	0
Functional	0	48	4	0	18	50	0	27	55
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.2.8 e-Government Interact/Site search - URBAN COUNCILS

e-Government	2003			2005			2007		
Interact	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	32	0	0	19	0	0	15	0	0
Token	0	0	0	0	5	0	0	0	0
Functional	0	68	0	0	14	62	0	22	63
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.2.9 e-Government Interact/Site search - RURAL COUNCILS

e-Government	2003			2005			2007		
Interact	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	67	0	0	39	0	0	18	0	0
Token	0	0	0	0	0	0	0	4	0
Functional	0	33	0	0	22	39	0	32	46
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.2.10 e-Government Interact/Email to officers - ALL COUNCILS

(applies also in e-Government Transact and e-Governance Consultation, Participation and Networks sections)

e-Government	2003			2005			2007		
Interact	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	4	0	0	0	0	0	2	0	0
Token	0	46	2	0	34	0	0	29	0
Functional	0	17	31	0	14	52	0	11	58
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.2.11 e-Government Interact/Email to officers - URBAN COUNCILS

(applies also in e-Government Transact and e-Governance Consultation, Participation and Networks sections)

e-Government	2003			2005			2007		
Interact	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	0	0	0	0	0	0	0	0	0
Token	0	64	5	0	38	0	0	33	0
Functional	0	9	23	0	0	62	0	4	63
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.2.12 e-Government Interact/Email to officers - RURAL COUNCILS

(applies also in e-Government Transact and e-Governance Consultation, Participation and Networks sections)

e-Government	2003			2005			2007		
Interact	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	7	0	0	0	0	0	4	0	0
Token	0	33	0	0	30	0	0	25	0
Functional	0	26	33	0	26	43	0	18	54
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.2.13 e-Government Interact/Employment - ALL COUNCILS

e-Government	2003			2005			2007		
Interact	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	38	0	0	25	0	0	29	2	0
Token	12	10	10	27	9	9	9	5	5
Functional	0	4	15	2	7	20	2	4	42
Redundant	10	2	0	0	0	0	2	0	0

Table G.2.2.14 e-Government Interact/Employment - URBAN COUNCILS

e-Government	2003			2005			2007		
Interact	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	23	0	0	5	0	0	4	0	0
Token	14	14	18	14	14	14	4	4	7
Functional	0	9	14	5	5	43	4	4	74
Redundant	9	0	0	0	0	0	0	0	0

Table G.2.2.15 e-Government Interact/Employment - RURAL COUNCILS

e-Government	2003			2005			2007		
Interact	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	56	0	0	43	0	0	54	4	0
Token	11	7	4	39	4	4	14	7	4
Functional	0	0	7	0	9	0	0	4	11
Redundant	11	4	0	0	0	0	4	0	0

Table G.2.2.16 e-Government Interact/Tenders - ALL COUNCILS

e-Government	2003			2005			2007		
Interact	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	54	0	0	36	0	0	45	0	0
Token	13	2	0	25	7	2	11	5	4
Functional	0	4	21	2	7	20	7	2	22
Redundant	4	2	0	0	0	0	4	0	0

Table G.2.2.17 e-Government Interact/Tenders - URBAN COUNCILS

e-Government	2003			2005			2007		
Interact	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	45	0	0	19	0	0	26	0	0
Token	9	5	0	24	0	5	11	7	7
Functional	0	9	32	5	10	38	7	0	41
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.2.18 e-Government Interact/Tenders - RURAL COUNCILS

e-Government	2003			2005			2007		
Interact	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	67	O	O	52	0	0	64	0	0
Token	19	0	0	26	13	0	11	4	0
Functional	0	0	4	0	4	4	7	4	4
Redundant	7	4	0	0	0	0	7	0	0

Table G.2.2.19 e-Government Interact/Information portal - ALL COUNCILS

e-Government	2003			2005			2007		
Interact	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	44	0	0	52	0	0	69	0	0
Token	2	19	0	2	11	5	0	16	0
Functional	0	10	25	0	16	14	0	4	11
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.2.20 E-government Interact/Information portal - URBAN COUNCILS

e-Government	2003			2005			2007		
Interact	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	41	0	0	48	0	0	63	0	0
Token	5	14	0	5	10	5	0	19	0
Functional	0	14	27	0	10	24	0	4	15
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.2.21 e-Government Interact/Information portal - RURAL COUNCILS

e-Government	2003			2005			2007		
Interact	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	48	0	0	57	0	0	75	0	0
Token	0	26	0	0	13	4	0	14	0
Functional	0	4	22	0	22	4	0	4	7
Redundant	0	0	0	0	0	0	0	0	0

G.2.3 e-Government TRANSACT

Table G.2.3.1 e-Government Transact/Payment online - ALL COUNCILS

e-Government	2003			2005			2007		
Transact	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	38	0	0	27	0	0	31	0	0
Token	0	0	0	0	0	0	0	0	0
Functional	0	52	10	0	48	25	0	25	44
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.3.2 e-Government Transact/Payment online - URBAN COUNCILS

e-Government	2003			2005			2007		
Transact	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	18	0	0	14	0	0	7	0	0
Token	0	0	0	0	0	0	0	0	0
Functional	0	68	14	0	62	24	0	44	48
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.3.3 e-Government Transact/Payment online - RURAL COUNCILS

e-Government	2003			2005			2007		
Transact	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	56	0	0	39	0	0	54	0	0
Token	0	0	0	0	0	0	0	0	0
Functional	0	41	4	0	35	26	0	7	39
Redundant	0	0	0	0	0	0	0	0	0

G.2.4 e-Government TRANSFORM

Table G.2.4.1 e-Government Transform/e-CRM - ALL COUNCILS

e-Government	2003			2005			2007		
Transform	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	96	0	0	89	0	0	82	0	0
Token	0	4	0	0	11	0	0	18	0
Functional	0	0	0	0	0	0	0	0	0
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.4.2 e-Government Transform/e-CRM - URBAN COUNCILS

e-Government	2003			2005			2007		
Transform	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	95	0	0	76	0	0	63	0	0
Token	0	5	0	0	24	0	0	37	0
Functional	0	0	0	0	0	0	0	0	0
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.4.3 e-Government Transform/e-CRM - RURAL COUNCILS

e-Government	2003			2005			2007		
Transform	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	100	0	0	100	0	0	100	0	0
Token	0	0	0	0	0	0	0	0	0
Functional	0	0	0	0	0	0	0	0	0
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.4.4 e-Government Transform/Central government portal - ALL COUNCILS

e-Government	2003			2005			2007		
Transform	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	77	0	0	86	0	0	96	0	0
Token	0	10	0	0	0	0	0	2	2
Functional	0	6	8	0	0	14	0	0	0
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.4.5 e-Government Transform/Central government portal - URBAN COUNCILS

e-Government	2003			2005			2007		
Transform	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	73	0	0	76	0	0	93	0	0
Token	0	5	0	0	0	0	0	4	4
Functional	0	14	9	0	0	24	0	0	0
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.4.6 e-Government Transform/Central government portal - RURAL COUNCILS

e-Government	2003			2005			2007		
Transform	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	81	0	0	96	0	0	100	0	0
Token	0	15	0	0	0	0	0	0	0
Functional	0	0	4	0	0	4	0	0	0
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.4.7 e-Government Transform/Integrated supply chain - ALL COUNCILS

e-Government	2003			2005			2007		
Transform	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	100	0	0	100	0	0	96	0	0
Token	0	0	0	0	0	0	0	4	0
Functional	0	0	0	0	0	0	0	0	0
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.4.8 e-Government Transform/Integrated supply chain - URBAN COUNCILS

e-Government	2003			2005			2007		
Transform	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	100	0	0	100	0	0	96	0	0
Token	0	0	0	0	0	0	0	4	0
Functional	0	0	0	0	0	0	0	0	0
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.4.9 e-Government Transform/Integrated supply chain - RURAL COUNCILS

e-Government	2003			2005			2007		
Transform	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	100	0	0	100	0	0	96	0	0
Token	0	0	0	0	0	0	0	4	0
Functional	0	0	0	0	0	0	0	0	0
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.4.10 e-Government Transform/Business portal - ALL COUNCILS

e-Government	2003			2005			2007		
Transform	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	85	0	0	84	0	0	87	0	0
Token	0	10	0	0	7	0	0	4	2
Functional	0	4	2	0	7	2	0	5	2
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.4.11 e-Government Transform/Business portal - URBAN COUNCILS

e-Government	2003			2005			2007		
Transform	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	82	0	0	76	0	0	78	0	0
Token	0	14	0	0	10	0	0	7	4
Functional	0	5	0	0	10	5	0	7	4
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.4.12 e-Government Transform/Business portal - RURAL COUNCILS

e-Government	2003			2005			2007		
Transform	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	85	0	0	91	0	0	96	0	0
Token	0	7	0	0	4	0	0	0	0
Functional	0	4	4	0	4	0	0	4	0
Redundant	0	0	0	0	0	0	0	0	0

G.2.5 e-Governance e-CONSULTATION/COLLABORATION

Table G.2.5.1 e-Governance e-Consultation/e-Consultation module - ALL COUNCILS

e-Governance	2003			2005			2007		
e-Consultation/collaboration	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	90	0	0	86	0	0	69	0	0
Token	0	2	2	2	0	0	0	2	2
Functional	0	6	0	0	7	5	0	16	11
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.5.2 e-Governance e-Consultation/e-Consultation module - URBAN COUNCILS

e-Governance	2003			2005			2007		
e-Consultation/collaboration	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	82	0	0	71	0	0	48	0	0
Token	0	5	5	5	0	0	0	4	4
Functional	0	9	0	0	14	10	0	22	22
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.5.3 e-Governance e-Consultation/e-Consultation module - RURAL COUNCILS

e-Governance	2003			2005			2007		
e-Consultation/collaboration	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	100	0	0	100	0	0	89	0	0
Token	0	0	0	0	0	0	0	0	0
Functional	0	0	0	0	0	0	0	11	0
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.5.4 e-Governance e-Consultation/Public message board - ALL COUNCILS

e-Governance	2003			2005			2007		
e-Consultation/collaboration	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	98	0	0	100	0	0	91	0	0
Token	0	2	0	0	0	0	0	2	0
Functional	0	0	0	0	0	0	0	4	2
Redundant	0	0	0	0	0	0	0	2	0

Table G.2.5.5 e-Governance e-Consultation/Public message board - URBAN COUNCILS

e-Governance	2003			2005			2007		
e-Consultation/collaboration	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	95	0	0	100	0	0	85	0	0
Token	0	5	0	0	0	0	0	4	0
Functional	0	0	0	0	0	0	0	7	4
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.5.6 e-Governance e-Consultation /Public message board - RURAL COUNCILS

e-Governance	2003			2005			2007		
e-Consultation/collaboration	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	100	0	0	100	0	0	96	0	0
Token	0	0	0	0	0	0	0	0	0
Functional	0	0	0	0	0	0	0	0	0
Redundant	0	0	0	0	0	0	0	4	0

Table G.2.5.7 e-Governance e-Consultation /Web-casting - ALL COUNCILS

e-Governance	2003			2005			2007		
e-Consultation/collaboration	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	100	0	0	98	0	0	100	0	0
Token	0	0	0	0	2	0	0	0	0
Functional	0	0	0	0	0	0	0	0	0
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.5.8 e-Governance e-Consultation /Web-casting - URBAN COUNCILS

e-Governance	2003			2005			2007		
e-Consultation/collaboration	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	100	0	0	100	0	0	100	0	0
Token	0	0	0	0	0	0	0	0	0
Functional	0	0	0	0	0	0	0	0	0
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.5.9 e-Governance e-Consultation /Web-casting - RURAL COUNCILS

e-Governance	2003			2005			2007		
e-Consultation/collaboration	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	100	0	0	98	0	0	100	0	0
Token	0	0	0	0	2	0	0	0	0
Functional	0	0	0	0	0	0	0	0	0
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.5.10 e-Governance e-Consultation /Online surveys/questionnaires - ALL COUNCILS

e-Governance	2003			2005			2007		
e-Consultation/collaboration	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	98	0	0	98	0	0	82	0	0
Token	0	0	0	0	0	0	0	4	0
Functional	0	2	0	0	2	0	0	13	2
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.5.11 e-Governance e-Consultation /Online surveys/questionnaires - URBAN COUNCILS

e-Governance	2003			2005			2007		
e-Consultation/collaboration	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	100	0	0	95	0	0	67	0	0
Token	0	0	0	0	0	0	0	4	0
Functional	0	0	0	0	5	0	0	25	4
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.5.12 e-Governance e-Consultation /Online surveys/questionnaires - RURAL COUNCILS

e-Governance	2003			2005			2007		
e-Consultation/collaboration	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	96	0	0	100	0	0	96	0	0
Token	0	0	0	0	0	0	0	4	0
Functional	0	4	0	0	0	0	0	0	0
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.5.13 e-Governance e-Consultation /email to elected members - ALL COUNCILS

(applies also in e-Governance: e-Participation and e-Networks sections)

e-Governance	2003			2005			2007		
e-Consultation/collaboration	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	33	0	0	32	0	0	42	0	0
Token	0	8	0	0	7	0	0	0	0
Functional	0	17	42	0	27	34	0	51	7
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.5.14 e-Governance e-Consultation /email to elected members - URBAN COUNCILS

(applies also in e-Governance: e-Participation and e-Networks sections)

e-Governance	2003			2005			2007		
e-Consultation/collaboration	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	23	0	0	14	0	0	19	0	0
Token	0	5	0	0	10	0	0	0	0
Functional	0	18	55	0	33	43	0	67	15
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.5.15 e-Governance e-Consultation /email to elected members - RURAL COUNCILS

(applies also in e-Governance: e-Participation and e-Networks sections)

e-Governance	2003			2005			2007		
e-Consultation/collaboration	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	44	0	0	48	0	0	64	0	0
Token	0	11	0	0	4	0	0	0	0
Functional	0	11	33	0	22	26	0	36	0
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.5.16 e-Governance e-Consultation /Web discussion spaces - ALL COUNCILS

(applies also in e-Governance: e-Participation and e-Networks sections)

e-Governance	2003			2005			2007		
e-Consultation/collaboration	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	100	0	0	93	0	0	98	0	0
Token	0	0	0	0	5	0	0	0	0
Functional	0	0	0	0	2	0	0	0	0
Redundant	0	0	0	0	0	0	0	2	0

Table G.2.5.17 e-Governance e-Consultation /Web discussion spaces - URBAN COUNCILS

(applies also in e-Governance: e-Participation and e-Networks sections)

e-Governance	2003			2005			2007		
e-Consultation/collaboration	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	100	0	0	95	0	0	100	0	0
Token	0	0	0	0	0	0	0	0	0
Functional	0	0	0	0	5	0	0	0	0
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.5.18 e-Governance e-Consultation /Web discussion spaces - RURAL COUNCILS

(applies also in e-Governance: e-Participation and e-Networks sections)

e-Governance	2003			2005			2007		
e-Consultation/collaboration	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	100	0	0	91	0	0	96	0	0
Token	0	0	0	0	9	0	0	0	0
Functional	0	0	0	0	0	0	0	0	0
Redundant	0	0	0	0	0	0	0	4	0

G.2.6 e-Governance e-PARTICIPATION

Table G.2.6.1 e-Governance e-Participation/Privacy statement - ALL COUNCILS

e-Governance	2003			2005			2007		
e-Participation	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	87	0	0	80	0	0	76	0	0
Token	0	2	0	2	7	0	0	7	0
Functional	0	12	0	0	11	0	0	9	4
Redundant	0	0	0	0	0	0	2	2	0

Table G.2.6.2 e-Governance e-Participation /Privacy statement - URBAN COUNCILS

e-Governance	2003			2005			2007		
e-Participation	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	82	0	0	67	0	0	63	0	0
Token	0	5	0	5	14	0	0	7	0
Functional	0	14	0	0	14	0	0	15	7
Redundant	0	0	0	0	0	0	4	4	0

Table G.2.6.3 e-Governance e-Participation /Privacy statement - RURAL COUNCILS

e-Governance	2003			2005			2007		
e-Participation	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	93	0	0	91	0	0	89	0	0
Token	0	0	0	0	0	0	0	7	0
Functional	0	7	0	0	9	0	0	4	0
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.6.4 e-Governance e-Participation /e-News - ALL COUNCILS

(applies also in e-Governance: e-Networks section)

e-Governance	2003			2005			2007		
e-Participation	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	67	0	0	32	0	0	7	0	0
Token	0	6	0	0	11	0	2	20	2
Functional	0	15	12	0	27	30	0	7	60
Redundant	0	0	0	0	0	0	0	2	0

Table G.2.6.5 e-Governance e-Participation /e-News - URBAN COUNCILS

(applies also in e-Governance: e-Networks section)

e-Governance	2003			2005			2007		
e-Participation	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	55	0	0	10	0	0	7	0	0
Token	0	5	0	0	10	0	0	4	0
Functional	0	18	23	0	24	57	0	11	78
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.6.6 e-Governance e-Participation /e-News - RURAL COUNCILS

(applies also in e-Governance: e-Networks section)

e-Governance	2003			2005			2007		
e-Participation	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	85	0	0	52	0	0	7	0	0
Token	0	7	0	0	13	0	4	36	4
Functional	0	7	0	0	30	4	0	4	43
Redundant	0	0	0	0	0	0	0	4	0

Table G.2.6.7 e-Governance e-Participation /E-Subscription - ALL COUNCILS

(applies also in e-Governance: e-Networks section)

e-Governance	2003			2005			2007		
e-Participation	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	92	0	0	89	0	0	84	0	0
Token	0	2	0	0	0	0	0	2	0
Functional	0	6	0	0	11	0	0	7	7
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.6.8 e-Governance e-Participation /E-subscription - URBAN COUNCILS

(applies also in e-Governance: e-Networks section)

e-Governance	2003			2005			2007		
e-Participation	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	95	0	0	86	0	0	70	0	0
Token	0	0	0	0	0	0	0	4	0
Functional	0	5	0	0	14	0	0	11	15
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.6.9 e-Governance e-Participation /E-subscription - RURAL COUNCILS

(applies also in e-Governance: e-Networks section)

e-Governance	2003			2005			2007		
e-Participation	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	93	0	0	91	0	0	96	0	0
Token	0	4	0	0	0	0	0	0	0
Functional	0	4	0	0	9	0	0	4	0
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.6.10 e-Governance e-Participation /Online polls - ALL COUNCILS

e-Governance	2003			2005			2007		
e-Participation	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	98	0	0	93	0	0	98	0	0
Token	0	0	0	0	5	0	0	2	0
Functional	0	2	0	0	2	0	0	0	0
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.6.11 e-Governance e-Participation /Online polls - URBAN COUNCILS

e-Governance	2003			2005			2007		
e-Participation	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	100	0	0	90	0	0	100	0	0
Token	0	0	0	0	5	0	0	0	0
Functional	0	0	0	0	5	0	0	0	0
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.6.12 e-Governance e-Participation /Online polls - RURAL COUNCILS

e-Governance	2003			2005			2007		
e-Participation	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	96	0	0	96	0	0	96	0	0
Token	0	0	0	0	4	0	0	4	0
Functional	0	4	0	0	0	0	0	0	0
Redundant	0	0	0	0	0	0	0	0	0

G.2.7 e-Governance e-NETWORKS

Table G.2.7.1 e-Governance e-Networks/Online communities of practice - ALL COUNCILS

e-Governance	2003			2005			2007		
e-Networks	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	100	0	0	100	0	0	100	0	0
Token	0	0	0	0	0	0	0	0	0
Functional	0	0	0	0	0	0	0	0	0
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.7.2 e-Governance e-Networks /e-Petitions - ALL COUNCILS

e-Governance	2003			2005			2007		
e-Networks	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	100	0	0	100	0	0	98	0	0
Token	0	0	0	0	0	0	0	2	0
Functional	0	0	0	0	0	0	0	0	0
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.7.3 e-Governance e-Networks /e-Petitions - URBAN COUNCILS

e-Governance	2003			2005			2007		
e-Networks	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	100	0	0	100	0	0	96	0	0
Token	0	0	0	0	0	0	0	4	0
Functional	0	0	0	0	0	0	0	0	0
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.7.4 e-Governance e-Networks /e-Petitions - RURAL COUNCILS

e-Governance	2003			2005			2007		
e-Networks	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	100	0	0	100	0	0	100	0	0
Token	0	0	0	0	0	0	0	0	0
Functional	0	0	0	0	0	0	0	0	0
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.7.5 e-Governance e-Networks /Community portal - ALL COUNCILS

e-Governance	2003			2005			2007		
e-Networks	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	90	0	0	91	0	0	89	0	0
Token	0	2	0	0	5	0	0	5	0
Functional	0	6	2	0	5	0	0	5	0
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.7.6 e-Governance e-Networks /Community portal - URBAN COUNCILS

e-Governance	2003			2005			2007		
e-Networks	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	91	0	0	90	0	0	85	0	0
Token	0	0	0	0	0	0	0	7	0
Functional	0	9	0	0	10	0	0	7	0
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.7.7 e-Governance e-Networks /Community portal - RURAL COUNCILS

e-Governance	2003			2005			2007		
e-Networks	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	89	0	0	91	0	0	93	0	0
Token	0	4	0	0	9	0	0	4	0
Functional	0	4	4	0	0	0	0	4	0
Redundant	0	0	0	0	0	0	0	0	0

G.2.8 e-Governance e-DEMOCRACY

Table G.2.8.1 e-Governance e-Democracy/e-Voting - ALL COUNCILS

e-Governance	2003			2005			2007		
e-Democracy	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	100	0	0	100	0	0	100	0	0
Token	0	0	0	0	0	0	0	0	0
Functional	0	0	0	0	0	0	0	0	0
Redundant	0	0	0	0	0	0	0	0	0

Table G.2.8.2 e-Governance e-Democracy /Binding online poll - ALL COUNCILS

e-Governance	2003			2005			2007		
e-Democracy	None %	One %	Many %	None %	One %	Many %	None %	One %	Many %
Not present	100	0	0	100	0	0	100	0	0
Token	0	0	0	0	0	0	0	0	0
Functional	0	0	0	0	0	0	0	0	0
Redundant	0	0	0	0	0	0	0	0	0